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AUTUMN 1992

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NEW TRAIL

People often think that *New Trail* is the product of a team of researchers, writers, editors and layout artists.

That's not the case. For the most part, the magazine is a one-person operation—something that occupies the largest chunk of my time in my position as communications coordinator for the University's Office of Alumni Affairs. But it's really too much for one person to do—at least within regular working hours and my office light will burn long into the night when a deadline approaches.

This summer the University has saved some on its electrical bill, because I have had the very able assistance of a University of Alberta graduate who's been attending school in Toronto. Charlene Yarrow, '91 BA, is midway in a two-year program of journalism studies at Ryerson Polytechnical.

She's interested in a career in magazine journalism and with that motivation was anxious to work on *New Trail* over her summer break, in spite of the very modest remuneration that was all we were able to offer her.

In addition to her ability, Charlene brought a good deal of journalistic knowledge with her—to what extent she was

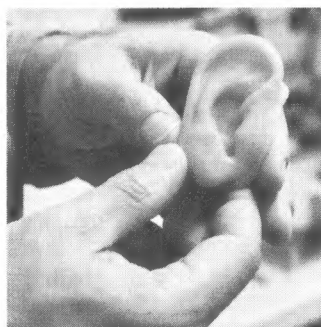
able to add to that, I'm not sure, but she did gain some practical experience.

What she did learn a great deal about was dentistry. This issue of the magazine is a special issue celebrating the 75th anniversary of the teaching of dentistry on campus, and Charlene did a great deal of the research and writing.

In looking closely at the Faculty of Dentistry, we were both surprised at the wide variety of activity that takes place under the Faculty umbrella. I hope you are able to gain some idea of this breadth as you read the magazine. As is usual with a special issue focusing on a faculty, it's been necessary to make some pretty arbitrary choices about what to include—there's a whole lot more interesting work taking place.

To all of those associated with the Faculty of Dentistry who helped us get the magazine to press, both Charlene and I extend our thanks.

Rick Pilger
Editor



A Proud Tradition 7

The University's Faculty of Dentistry is celebrating the proud tradition which has developed in the 75 years that dentistry has been taught on campus.

At Work on the Frontiers of Dentistry 13

The Faculty of Dentistry has a surprisingly wide involvement in work that is pushing the frontiers of dentistry.

An Affinity of Bone and Metal 18

A professor of dentistry at the University has played an important role in establishing a new medical facility, which will specialize in craniofacial implant technology.

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Cover

Dr Jay Phillipson treats nine-year-old Alex Black of Edmonton in the Faculty of Dentistry's orthodontics clinic. Phillipson is enrolled in the Faculty's MSc program in orthodontics, the only such graduate program in Western Canada.

Photo by Lotus Studio.



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Faculties to be Merged

A major restructuring is taking place at the University. After 31 March 1993, the Faculty of Agriculture and Forestry and the Faculty of Home Economics will no longer exist as separate entities. In their place will be a combined faculty, for which no name has yet been chosen.

The merger of the faculties, proposed by the University administration earlier this year, was made official by the University's governors at their 5 June board meeting.

As the proposed merger made its way through the channels of University government, the Agriculture and Forestry dean, Dr Ed Tyrchniewicz, was overheard suggesting—tongue firmly in cheek—that his faculty's Department of Soil Science could merge with Home Economics' Department of Clothing and Textiles, giving the University a Department of Dirty Laundry. The dean wasn't being entirely frivolous: it was his way of acknowledging that the merger will at times be painful, and the various individuals involved will be called upon to maintain a sense of humor as they make the adjustments required of them.

Neither faculty sought the merger. While there had been indications that University

restructuring would have major implications for the small Faculty of Home Economics, the proposal for a complete merger with Agriculture and Forestry came as a surprise.

In an article in the University's weekly bulletin *Folio*, the University's vice-president (academic), Dr John McDonald, was quoted as saying, "The question that is bound to come up is 'why a merger with Agriculture?' I think it would be helpful to state at the outset that there is no perfect merger or solution."

The vice-president said that the University has progressively gotten itself into a more difficult situation by adding a little bit here and a little bit there. "We have to be prepared to do the opposite on occasion. In this case, I believe we have a happy circumstance that this merger will give the possibility of exciting new things, that it will be better suited to the needs of the students and society of the future."

At their meeting, the governors were told that, because it had developed such a basic sciences orientation, there was pressure to move the Foods and Nutrition department out of Home Economics. There was concern that if this were to happen the Faculty, already one of the smallest on campus, would be unable to survive. Mention was also made of the low undergraduate enrolment in agriculture programs.

Now that the merger has been made official, the deans of both the faculties involved are focusing on the opportunities provided and the possibility for innovation.

Dr Elizabeth Crown, the Home Economics dean, declares her faculty's commitment to the merger, saying "We want to make it work and ensure some positive outcomes." She adds that it is important for people "to realize that the programs are continuing, although we are certainly modifying them somewhat and expect to have some exciting new programs."

Tyrchniewicz is also committed to making the merger work. "I genuinely see it as having positive aspects," he says, adding that it is an opportunity for "two long-established faculties to get focused and more relevant."

While many details of the merger remain to be worked out, certain changes have already been mandated. These include combining Home Economics' Department of Foods and Nutrition with Agriculture and Forestry's Department of Food Science and merging Clothing and Textiles and Family Studies, the two remaining Home Economics departments. Indications are that the department resulting from the combination of the two Home Economics departments may well be called "Human Ecology."

"I think that it is safe to say that the whole faculty will have more of an ecological and environmental focus," suggests Crown. Her Agriculture and Forestry counterpart agrees. Addressing General Faculties Council at the time that the University's senior academic decision-making body debated the merger (which it subsequently supported) Tyrchniewicz said, "We have to be aware of changes in society, and in the Faculty of Agriculture and Forestry we are refocusing our efforts [towards] a greater understanding and recognition of environmental issues, globalization and a move away from the notion of agriculture being essentially about farming."

This refocusing has been, in

part, responsible for the Agriculture and Forestry faculty's recent revisions to its undergraduate program, and the merger is "fitting in with this quite well," says the dean.

Now that the University's highest governing body has approved the merger, planning is beginning in earnest and the new faculty should rapidly take shape over the next few months. Soon, a process for selecting a dean will be initiated.

Another important decision will be choosing a name. For his part, Tyrchniewicz would like to ensure that the new faculty doesn't have a name that "reads like a law firm." Instead of something like "Agriculture, Forestry and Home Economics," he would prefer a name providing a focus for all parts of the faculty. Suggestions that have surfaced so far include: "Faculty of Applied Ecology," "Faculty of Applied Life Sciences," and "Faculty of Renewable Resource Management."

Dean Appointed Research VP

As the dean of Rehabilitation Medicine, Martha Piper has pursued excellence in her own research; beginning in January 1993 she will be responsible for ensuring the University of Alberta's contribution to research excellence among Canadian universities.

Piper was recently appointed to a five-year term as vice-president (research), starting in 1993 when Bob James will vacate the post. While dean, she has continued to investigate the field of muscular development in premature babies, and how these babies learn to move.

"It keeps me humble and in touch with how you do research, the problems, the difficulties, the competitiveness and the excitement and importance of doing research," she says, adding that after becoming vice-president she'll likely play a less active research role.

Piper will administer research grants and contracts, act as liaison between the university and public and private granting agencies, and distribute the U of A's research findings in the



Renowned theoretical physicist Stephen Hawking recently visited Alberta to attend an international physics symposium in honor of U of A professor Werner Israel, who is one of his closest collaborators. While in Edmonton, Hawking, shown here chatting with Israel, delivered a sold-out lecture at the Jubilee Auditorium. With the aid of a computer and speech synthesizer the Cambridge professor, who suffers from Lou Gherig's disease, shared some of his thoughts on the future of the universe in an address sprinkled with humor.



New VP Piper found that continuing her research while dean kept her humble.

broader community. In 1991-92, research funds received by the University totalled more than \$81 million.

The dean of Rehabilitation Medicine will undoubtedly find her experience with that acuity an asset in the vice president's job. Since her appointment as dean in 1985, the Faculty's research funding has steadily increased, and Piper spearheaded a successful \$1 million fund-raising campaign to equip the Faculty's current quarters, the newly-renovated Corbett Hall. Under her direction, the Rehabilitation Medicine undergraduate enrolment has increased to meet the growing need for rehabilitation therapists.

Piper would like to see more

cooperation between Canadian institutions—the days of setting up costly programs at every university are over, she says. "We need to be looking at building a Canadian system, so that the U of A is strong in 'X,' the University of Saskatchewan is strong in 'Y,' and UBC is strong in 'Z.'"

University President Paul Davenport commends Piper for having a "broad knowledge of research throughout our diverse institution and the commitment to excellence in all parts of the academy." The newest vice-president has an uncompromising mandate for her new position: says Piper, "there's no substitute for excellence."

Honorary Degrees Conferred

Some old friends of the University, including five alumni, returned to campus to receive honorary degrees during the spring convocation ceremonies held in early June.

The friends included Justice William Stevenson, '56 BA, '57 LLB, a justice of the Supreme Court of Canada, who served as a professor in the Faculty of Law for 12 years. During his many years in Alberta, Stevenson practised law, was named a judge of the District Court of Alberta, moved to the Court of Queen's Bench of Alberta in 1979 and, a year later, became a justice of the Court of Appeal of



The winners of the University's 1992 Rutherford Awards for Teaching Excellence were recently honored. They are [left to right] Michael Roeder (Music), Ted McClung (Chemistry), Olive Yonge (Nursing), Ronald Whitehouse (Medical Microbiology) and Tony Lau (Mathematics).

Alberta and the Court of Appeal of the N.W.T.

Stevenson, who was appointed to the Supreme Court of Canada in 1990, resigned from his seat on the court for personal health reasons shortly after receiving his honorary Doctor of Laws degree from his alma mater.

Another former Law faculty member was also honored at spring convocation. Madame Justice Ellen Picard, '63 BEd, '67 LLB, vice-chair of the Law Reform Commission of Canada, who taught in the Faculty of Law for 15 years before leaving in 1986 to become a member of the Court of Queen's Bench of Alberta, also received an honorary Doctor of Laws degree.

In conjunction with the Faculty of Dentistry's 75th anniversary celebrations, honorary Doctor of Science degrees were awarded to alumnus Ronald Jordan, '54 DDS, dean of dentistry at the University of Manitoba, and to David Barmes, chief of the oral health unit at the World Health Organization in Geneva.

As part of the Faculty of Education's 50th anniversary celebrations, honorary Doctor of Laws degrees were conferred upon two University of Alberta graduates: Naomi Hersom, '69 PhD, former president of Mount Saint Vincent University, and Ted Aoki, '49 BEd, '63 MEd, professor emeritus of secondary education.

During the six days of spring convocation, at which more than 4,500 degrees were con-

ferred, honorary degrees were also awarded to the Honorable Gordon Towers, lieutenant-governor of Alberta; former U of A Board of Governors member Sandy Pearson, who heads Century Sales and Service Ltd. of Edmonton; Oles Honchar, a prominent Ukrainian writer of the post-war period; and French author and scholar Hélène Cixous, professor of English at the University of Paris VIII.

Business, Policy and Administrative Studies Review

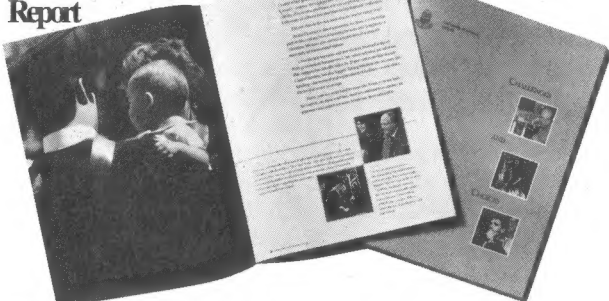
The area of business, policy and administrative studies at the University of Alberta is being reviewed. The major objectives of the review process are to determine existing areas of strength and excellence within respective courses and programs and to identify existing and potential relationships and linkages within, between and among programs that do exist. Teaching and research activities in the area are an important consideration for the university community as well as members of the public, related professions and groups, consumers, students and employers.

The Subcommittee on Business, Policy and Administrative Studies invites interested individuals and groups to make a one page submission on their perceptions of the strengths and weaknesses of the present activities on campus and to comment on the need for a campus focus on public policy. For individuals interested in meeting with the Subcommittee, short interviews will be conducted in October and November.

Please direct correspondence to:

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and Administrative Studies
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A Special Report



Entitled "Challenges and Choices," the University's annual report for 1991-92 features a joint message from the University's president, its chancellor and the chair of its Board of Governors addressing concerns about the future direction of the University. In addition to presenting a full set of financial records for the

past year, the report provides a record in words and pictures of some of the distinguished achievements of students and faculty in 1991-92.

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Around and About

□ A cooperative chair in agricultural marketing and business has been established in the Faculty of Agriculture and Forestry's Department of Rural Economy. A suitable candidate is now being sought to expand relationships with other universities, act as a liaison between the University and provincial government agencies, boards, and commissions, and foster ties between the Faculties of Agriculture and Forestry and Business.

□ Gordon Thompson, chair of the Department of Dental Health Care, has been elected to a two-year term as chair of the Canadian Fund for Dental Education, a national, non-profit agency which supports dental research, education, and service.

□ The Institute of Rotating Machinery has selected mechanical engineering professor KC Cheng, who has researched heat transfer phenomena in curved and rotating channels, as one of this year's recipients of an outstanding achievement awards.

□ The director of the Rick Hansen Centre, Bob Steadward, is the 1992 recipient of the Bryce Taylor Memorial Award from the Sports Federation of Canada. The award recognizes outstanding contribution to Canadian amateur sport.

□ The dean of the Faculty of Agriculture and Forestry, Ed Tyrchniewicz, has been elected to the board of trustees of the International Centre for Research in Agroforestry, based in Nairobi, Kenya.

□ Four members of the Department of Plant Science were honored recently: Chuji Hiruki received the Japanese Government Research Award for Distinguished Foreign Specialist; Ali Szalay was elected a foreign member of the Biological Research Centre of the Hungarian Academy of Sciences; Keith Briggs earned the Life Membership Recognition Award of the Alberta branch of the Canadian Seed Growers; and Peter Blenis received the Brian Hocking Undergraduate Teaching and Learning Award.

□ The U of A's Canadian Circumpolar Institute and the Tungavik Federation of Nunavut are joint publishers of *The Nunavut Atlas*. Unlike other atlases, this one depicts land-use features such as archeological sites, campsites, fishing sites, outpost camps, major travel routes, caribou calving grounds, and waterfowl nesting areas.

□ The new director of the Ottawa-based Canadian Council on Animal Care is Don Boisvert, a U of A professor of surgery. The Council ensures that animals used in research, education and testing are treated humanely.

□ Based on their outstanding research, teaching, and service to the University, William Ayer of the Department of Chemistry and Peter Meekison of the Department of Political Science have been honored with the distinction "University Professor."

□ An alumnus and 1990 co-winner of the Nobel Prize in Physics, Richard Taylor, is to be a frequent visitor to the U of A Physics Department. He will have an office in the department, and will spend several days at a time on campus meeting with students and faculty.



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A Proud Tradition

Convocation is a ceremony lush with tradition and custom and rich in hope for the future, a day when a university summons up all the pomp and circumstance it can muster. This was particularly true this year on 5 June, the fifth day of the University of Alberta's Spring Convocation, when the University celebrated 75 years of dental education. To Dean Norman Wood of the Faculty of Dentistry fell the honor of making the Report to the University. In his remarks, Wood invoked the importance of tradition to the Faculty and the University with the words of DW Gullet, a Canadian dentist and author who wrote: "It is impossible to comprehend the present, much less guess at the future, without knowledge of the past."

A few days after Convocation, on another radiant Alberta summer day, Wood comments that he and his family enjoy Alberta's "cool summers"—cool compared to humid Toronto, where he received his dental degree in 1958, and Chicago, where he spent 27 years at Northwestern and Loyola Universities before coming to Edmonton in 1989.

Discussing the Faculty he has led for the past three years, Wood says its most precious quality is its long heritage, a legacy resonating from every brick and cornice of the historic Dentistry-Pharmacy Centre, and from the portraits of former deans that dignify the approach to Wood's office. In this setting, he elaborates on what makes the U of A a special dental school.

"The quality of the students, absolutely," Wood says. He says that in the United States demand for dentists and dental school enrolment are both low. "It's hard there to fill a class with good students. Here we have applications at a rate of eight or nine to one—good applicants for each position. We have a tremendous selection, both in dentistry and dental hygiene."

He praises his faculty members as worthy successors of a long line of distinguished educators and professionals, and as an excellent mix of teachers from some 33 different universities. He says, "I often tell [students] when they come in on the first day, they have the opportunity to go to some of these 33 universities and spend a few weeks there—without travelling."

The international profile of his Faculty was enhanced this past July, as several U of A professors who are leaders in their fields presented their research at the International Association of Dental Research meeting in Glasgow. In a profession where the scalpel may be replaced by a dental laser, and where titanium implants attached to lifelike dental prostheses are making dentures obsolete, today's students must be grounded in traditional techniques while toeing the line of the future, suggests Wood. "The challenge now with our curriculum is that we have to hold the



The Faculty of Dentistry Looks to the Future While Marking a Milestone in its History

Above: Dr Norman Wood, shown here outside the Dentistry-Pharmacy Centre, is the sixth dean to lead the Faculty of Dentistry since its creation in 1944.

bacteriology, biochemistry, communicable diseases, pharmacology, and physiology; no purely dental subjects were offered until the second year of the course. After completing the two-year course, Alberta students could qualify for the degree of Doctor of Dental Surgery by finishing two more years of study either at the University of Toronto or McGill University. The U of A remained the only dental school in Western Canada until the founding of the dental school at the University of Manitoba in 1957.

The foundation for a strong dental faculty at the U of A was solidified by 1920. That was the first year that Dr Harry Bulyea's name appeared in the University calendar as an instructor in operative dentistry. Bulyea was a graduate of Harvard Dental School, established in 1867 as the first university dental program and later the model for the U of A dental degree curriculum. A pillar of the Faculty until his retirement in 1942, Bulyea, who came to Edmonton after stops in Saskatchewan, British Columbia, Chicago, and Calgary—he admitted he "couldn't settle down in any place for too long"—was a legend well after his death at age 103 in 1976. When Dentistry was made a School in 1930, he was appointed director.

The Medical Sciences building opened in 1921 and became Dentistry's permanent home—quite an improvement over the previous quarters in the old Engineering building. Yet little more than 20 years later the need for a dentistry building was recognized. In 1942 the Alberta Dental Association suggested that "the school has been handicapped by unsuitable and inadequate quarters, much miserable equipment and an underpaid staff, yet has continued to graduate men whose abilities are the equal at least, of those of any school."

Dentistry immediately began lobbying for a new building, but the government's only response was an equipment grant of \$40,000. In the late '60s when plans were prepared for what would become, in 1984, the Walter Mackenzie Health Sciences Centre, they originally included a separate dental building. This part of the plan never came to fruition, however, and today the dentistry and pharmacy schools share the old Medical Sciences building, which has now been renamed to reflect their tenancy.

line-teach pretty well everything we have taught—and on top of that we have to cover all kinds of new things," Wood says. That challenge is captured in the theme that his Faculty chose for this year's anniversary: "75 Years and Forward."

Seventy-five years ago these building blocks of tradition—excellence in students, staff, research, and teaching—began to shift into place. In the fall of 1917, all U of A Dentistry could boast of was students. Three of them. At that time, Dentistry was a department in the Faculty of Medicine. "Dents" and "Meds" took lectures and labs together in anatomy,

By Charlene Yarrow

Starting in 1923 students could complete a full four-year dental degree at the U of A, with the first class of seven graduating in 1927. During the Depression the maximum number of third-year dental students was limited to seven. "This was probably the first quota to be established at the University!" wrote the late Hector MacLean, a 1928 U of A DDS graduate and later dean of the dental school, in his history of Alberta dentistry.

Things got worse in 1932-33, when the graduating class hit an all-time low of one student: the late Dr Harold Turner. When Dr William Scott Hamilton took over as director in 1942, the maximum had increased to 15 students. By the time he was appointed dean of the newly-constituted Faculty of Dentistry in 1944, the dental program was accelerated to year-round instruction and students were given a sustenance allowance and enlisted in the Canadian Dental Corps in support of the war effort. A more normal course resumed after the war, with one enviable difficulty for the Faculty: too many qualified applicants. Ex-servicemen were given preferred acceptance, and many qualified civilians were turned down.

A surplus of qualified applicants has persisted over the years, despite the high entrance standards that have always been maintained for dental students. In the '30s the University of Toronto admitted dental students with Grade 11 matriculation, but the U of A insisted on not only Grade 12 but a pre-dental year in Arts. Medicine was turning away such numbers of students by the '40s that it was suggested that some should be selected for Dentistry—a suggestion that was flatly refused. Nor would the U of A give credit in the post-war years for courses completed at the Canadian Dental Corps School. Today, the Faculty requires two years of university education prior to enrolment in the four-year dentistry program.

Change came to the Faculty in the '60s, with the addition of the new dental auxiliary program in 1961. The next year this program was formed into the School of Dental Hygiene, and a graduate studies program was added.

A sign of the times: yellowed newspaper clippings from 1968—complete with dated photographs—report that the Faculty had adopted the use of lap covers for mini-skirted female patients. The company that supplied the covers claimed that the dental students' grades had "shown a marked improvement." Despite the fact that the first woman entered the profession in 1899, and the Class of '43 included Yachiyo Yoneyama, the first woman dental graduate at the U of A, as late as the '60s dentistry was still a predominantly male profession. A sign of modern times: two women tied for the Faculty's top honors in the Class of '92, a graduating class approximately one-third women.

While the bulk of the Faculty's dental graduates went on to establish private practices, others pursued careers in dental education. William Scott Hamilton, a student at the U of A in 1920-21; Hector MacLean, '28 DDS; Donald Collinson, '58 DDS; and Gordon Thompson, '65 DDS; all later became deans at their alma mater. John Neilson, '41 DDS, was the first dean of Dentistry at the University of Manitoba, and U of A dental graduates now hold teaching and administrative positions at many North American schools of dentistry.

After other Canadian dental schools appeared in the '60s at

the Universities of British Columbia, Western Ontario and Saskatchewan, some of the weight of dental education was taken off the U of A, and more resources were devoted to building up research. Between 1977 and 1982 the faculty firmed its academic structure of departments and divisions. Under the leadership of Gordon Thompson, who served as dean from 1978 to 1989, a greater number and variety of research projects were pursued, and increasingly faculty members were able to travel to national and international conventions to give exposure to their work.

A dental faculty must equally balance the academic and research demands of the university, and the community mandate to train health professionals, says the current dean of Dentistry. While some might take a negative view of the recent cut in enrolment that the dentistry program has implemented, Wood holds the positive view that the Faculty must respond to community needs. "We're pretty well balanced at the moment. We went down from 50 to 30 [dentistry students], and I think that's about where we should be." He adds that the government and the university will do a survey of the dental profession in 1994-95 to determine the demographics and the future needs of dentistry and dental education.

In each of four years, U of A dental students spend an average of over 1000 hours in lecture, lab, and clinical time; dental hygiene students average nearly the same number of hours in each of two years of their program. Subjects such as anatomy, bacteriology, and medicine are offered by other faculties, and clinical experience, dental subjects, and courses in practice management are run by the faculty. Because the Faculty is approved by the Canadian Dental Association, dental graduates are automatically eligible for registration in Alberta and with the National Dental Examining Board, without further examination.

The Faculty is also distinguished by a graduate program in orthodontics, which normally requires an additional three years of study beyond the DDS degree in order to obtain a Master of Science with specialization in orthodontics. Over its entire 75-year history, the faculty has produced 40 such specialists, 886 hygienists, and 2,238 dentists.

Wood is proud of the fact that the Faculty has excellent relations with the professional and greater community. Each academic year more than 100 practising dental professionals return to the faculty as part-time clinical instructors, and Dentistry's continuing education division offers many courses for practising dentists. This year, in response to public concerns over the transmission of communicable

diseases, the Faculty will launch a community sterilization-monitoring program. Sterilization strips will be available to every dental practice in the province, to check how the effectiveness of each office's sterilization equipment.

Wood says the profession must take dental care to segments of the population that aren't receiving it. "The joke used to be that dentists had their offices on the second or third floor of a building with no elevator. If the patients could walk up the stairs, they were well enough to be worked on. But those days are gone," he says.

Academically, Wood would like to see (continued on page 10)

Dr Bulyea with students in 1927. A mountain climber, painter, photographer and sculptor, he created some of his own dental instruments and prepared numerous detailed drawings of the teeth for use in his teaching.



Dental Hygiene Celebrates 30 Years on Campus

Forty years ago so little was known in Canada about the dental hygiene profession that students interested in it as a career were often told, "If you could stand to look into another person's mouth, you could become a dental hygienist," laughs Professor Margaret Berry MacLean, the founder of the dental hygiene program at the U of A.

This year, as Dental Hygiene celebrates its 30th anniversary on campus, the program is favored with a surplus of qualified applicants. Through a selection process that considers academic standing and a personal interview, 429 applications were narrowed down to the 65 students who will commence the two-year diploma program this fall.

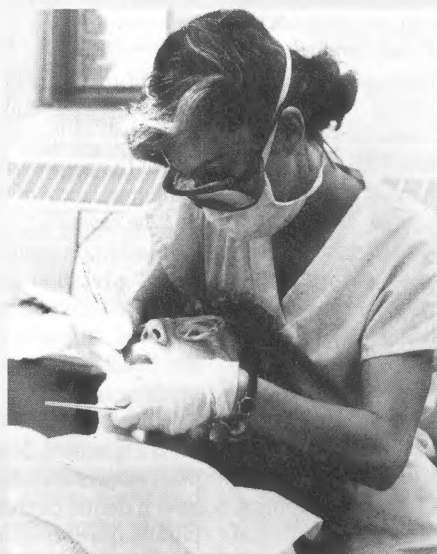
"Dental hygiene is changing significantly, because as caries decreases, people are keeping their teeth for a lifetime, and the need for preventative services is rapidly increasing," says Professor Janice Pimlott, chair of Dental Hygiene. She says there is added demand now for services such as oral health assessment, preventative education and scaling and polishing teeth.

Tooth decay was rampant in the early 1900s, when the idea of a dental auxiliary concerned with preventative care developed. The first hygiene training program was established in Bridgeport, Connecticut, in 1913, and the first Canadian program was established in Toronto in 1951. The introduction of dental hygienists into Alberta was first suggested to the Alberta Dental Association in 1924 by pioneer Alberta dentist Dr OF Strong. The ADA board rejected the idea, and dental hygiene did not gain support until the late '40s when the federal government offered grants to those who would agree to serve in public health after their training. Joan Engman of Edmonton accepted this offer, studied dental hygiene at the University of Michigan, and returned to Alberta as the province's first dental hygienist in 1951.

In the same year, Margaret Berry graduated with a Bachelor of Science degree from Mount Allison University in New Brunswick. She recalls discussing with Mount Allison's dean of women the public health education grant and her qualifications for the bachelor's degree in dental hygiene at Columbia University. She candidly admits that, at the time, two years in New York was, for her, a major attraction of the profession! After completing the degree program, she became the provincial dental hygienist in New Brunswick and later the federal dental hygienist with the Department of National Health and Welfare in Ottawa.

Meanwhile, the ADA reconsidered dental hygiene in 1949, and suggested that the U of A institute a training program. Dentistry professor Hector MacLean, a strong advocate of the dental hygiene profession, was commissioned to survey dental hygiene training programs. One was subsequently proposed to the Alberta government in the mid-'50s, but rejected.

In 1958, Hector MacLean became dean of Dentistry and soon arranged with the Province to offer a two-year dental hygiene diploma at



Sixty-five students will begin the Dental Hygiene program at the University this fall. That's up from 50 last year in response to the high demand for graduates.

the University. This occurred in 1960 with passage of the Dental Auxiliary Act.

In January 1961, Berry became director of the two-year program, which commenced that September with 20 students. Each received a government bursary and in return served for two years with Alberta public health units. In 1962, the University approved the School of Dental Hygiene to train dental auxiliaries for both public and private practice, with Berry as director. For Dental Hygiene's anniversary celebration this year, the first director, who retired in 1975, was honored to return to present the Dental Hygiene graduates with their diplomas. Later, Berry MacLean (she and Hector MacLean married in 1965) reminisced about the program's early days on campus.

"I can't give those early classes enough credit," she says of her first students in Alberta. "They had an esprit de corps . . . they worked tremendously hard. At the time, dental hygiene was one of the heaviest programs on campus."

The School of Dental Hygiene evolved into what is today the Dental Hygiene division of Dentistry's Department of Dental Health Care, one of only three Canadian dental hygiene programs still taught at a university. Pimlott feels that dentists and dental hygienists get off to a good start by training together: "If you teach in isolation, you work in isolation." She cites the research facilities and diverse expertise as characteristics that make a university the "ideal environment" for teaching dental hygiene.

"Collaborative care" is a term Pimlott uses to describe the interaction between dentists and hygienists which the program is fostering at the student level. "My prediction for the next couple of decades is that you'll see the whole dental team—dental assistant, hygienist, and dentist—working towards prevention," she

says, stressing as well the importance of collaboration with other health care professionals.

The Dental Hygiene division is involved in research nationally and internationally and students are also being exposed to research. "We are an expanding profession and we need research to develop our knowledge base," Pimlott says. In recent years, senior dental hygiene students have presented their research to the Edmonton District Dental Symposium.

Along with these new considerations, the traditional components of the program are still in place: lectures, community work, clinical training, even public speaking. "I really felt it was necessary in order to have a well-rounded program for the students, because so much of a hygienist's work is in community education," says Berry MacLean of the first public speaking course. She recalls that Fred Bentley, dean of Agriculture at the time, was one of many University faculty members eager to help her in 1961. He taught a public speaking course to his students and offered to teach her students, as well. "The University was a wonderful place to be in those days, there was so much cooperation," Berry MacLean says.

Dr Gordon Thompson, chair of the Department of Dental Health Care, says that while 60 per cent of the first year of the dental hygiene program is devoted to lectures, 70 per cent of the final year is spent on clinical work. This includes working in the clinics on campus and in the satellite clinics, and taking dental hygiene care to hospital patients. Pimlott praises the practising hygienists who serve as clinical instructors: "Many have advanced degrees or special expertise—they're a top-notch group."

Berry MacLean and Pimlott agree that the next step for dental hygiene in Canada is to develop bachelor's and master's degree programs. "As the profession grows, education programs have to grow," Pimlott says. She says that bachelor degrees in dental hygiene are offered at the Universities of Toronto and British Columbia, and that several others have been proposed, including one at the U of A. This would allow students interested in public health or private practice to pursue the two-year diploma, while those interested in research or teaching could continue for an additional two years to complete a bachelor's degree.

Dental hygiene education has been changing in another way: increasing numbers of men, including two in this year's graduating class at the U of A, are joining the traditionally female profession. "Many of the acts that legislated dental hygiene in the States, and some in Canada, restricted the licensing to females," says Berry MacLean. "The thinking was that if a male was allowed into dental hygiene . . . that he would step over the bounds and do the work of a dentist." That legislation has disappeared and Pimlott emphasizes that gender is not a factor in the selection process at the U of A, adding that she is glad the program's appeal is spreading: "It's an indication of the changing times and the growth of the profession."

the concentration of research into a few centres of excellence, and development of more graduate programs. "Graduate students are able to teach in undergraduate programs, and they could handle some of our tougher (clinical) cases," he says. During his tenure as dean he says he has put more emphasis on the clinical component of the program: "I really felt very strongly when I came here that there was not enough emphasis put on clinical teaching." More interdisciplinary work with Medicine, Nursing, and Pharmacy would also benefit the students and the Faculty, he says.

What else would he do if the University handed him a blank cheque? "A new building would be nice," Wood says with a smile. The more some things change . . .

The profession is changing rapidly, without a doubt. A paper called "Dentistry Looks Ahead," prepared by Wood and colleague Dr Ken Hinkelman, predicts that in another 75 years "there will be a drastic change in the things that a practitioner does during an average day." Increased public awareness of dental health, and new technology will bring about this change, Wood says.

He is particularly enthusiastic about new technological applications, such as the hand-held dental laser, which the Faculty of Dentistry helped develop in conjunction with John Tulip of the Faculty of Engineering at the U of A. Computers also have their place in the future of dentistry, for uses such as producing and enhancing the images collected by a television camera the size of a dental mirror, and imaging the results of cosmetic dentistry or orthodontics. CAD-CAM technology, currently in use by only handful of dentists, can be used to optically scan and measure a prepared tooth, design a crown

or inlay, and relay instructions to a milling machine which creates the restoration.

The future of the dental profession may lie in sophisticated technology, but Wood knows that a good dental education is much more than mere technical training. "I count dental education as probably one of the hardest disciplines, because you have to conquer both the academic aspect of it, as well as develop tremendous manual dexterity," he says.

In addition, students have to cope with the various stresses of dental education and practice. First, many patients are scared of dentists; second, dentists are always watching the clock because technical difficulties frequently prolong procedures; third, dentistry as a business has a high overhead—and a high responsibility—for two or three other staff members. "All these things push dentists very hard," says Wood.

As a qualified dentist, Wood can appreciate the pressures faced by practitioners and students. "I think the dean of a dental school should have a dental degree . . . so that he's aware of all the heartaches and pitfalls and everything else that goes with a dental education. It gives you some compassion for the students and what they are going through." He says one of his primary goals is to make concern about students and teaching a top priority of the Faculty of Dentistry.

Based on the impression he got from the graduating students at this year's convocation, Wood thinks that significant progress has been made towards this goal. "They are very positive. A very good class, and very interested in dentistry and in treating human beings."

Building a New Tradition: Professor Helps Establish Caribbean Dental School

At first glance, tropical Trinidad and the province of Alberta don't seem to have many similarities. But there are some—just ask U of A professor emeritus Tony Hargreaves, himself one of the things the two have in common.

Two years ago Hargreaves became the first director of the dental school at the University of the West Indies in Trinidad, after 10 years as director of graduate studies and research in the U of A's Faculty of Dentistry. An interesting move, Hargreaves points out, as "the University of Alberta is one of the oldest dental schools in the world, and the University of the West Indies is the newest."

Unlike other Caribbean islands, Trinidad has an economy that runs not on tourism, but on oil—strikingly like Alberta's economy, Hargreaves says. During the oil boom of the late 1970's, Trinidad earmarked some of its oil revenues for a medical education complex. Building began in the late 1980's, and the Faculty of Medical Sciences on the Trinidad campus of the University of the West Indies (there are also campuses in Jamaica and Barbados) is the culmination of that plan.

Hargreaves says the structure of the Caribbean health-care faculty is unusual: students of medicine, dentistry, and veterinary medicine study basic sciences during a combined three-year program, then they branch out to do two and a half

years of clinical training in their chosen field. The first classes will graduate in 1994. Students have the opportunity to do clinical training in medicine and dentistry, obtaining both an MD and a DDS in about seven years.

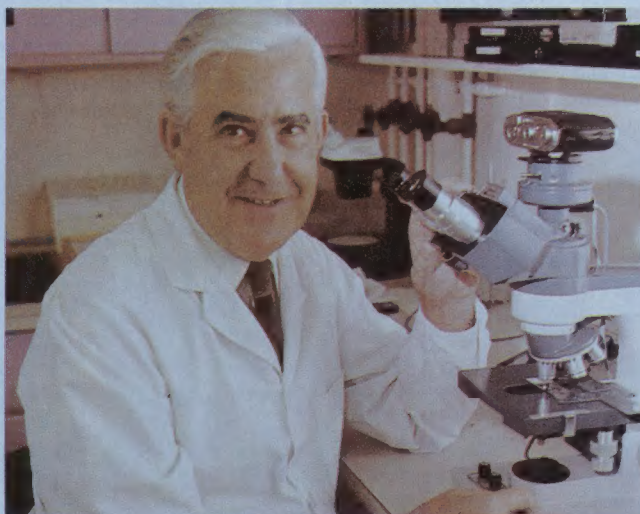
While Alberta has a ratio of one dentist for every 2000 people, in Trinidad there are currently 95 dentists—all foreign educated—for a population of 1.3 million people. Hargreaves says one goal of the dental school is to bring the ratio up to one dentist for every 5000 people in Trinidad by the year 2010. He would also like

to see a faculty entirely made up of Caribbean doctors and dentists by the year 2000.

Meanwhile, the school in Trinidad is looking to Canada, the United States, and Europe for experienced dental professionals with an international profile, who are willing to commit to a short (two or three) year term. The opportunity to help establish a new school is uncommon these days, Hargreaves says, adding with a smile that "a very nice lifestyle" comes along with a position in Trinidad.

Before coming to the U of A in 1980, Hargreaves was head of children's dentistry at three Universities: Edinburgh, Toronto, and Harvard. A pioneer fluoride researcher, Hargreaves will return to the U of A dentistry faculty this fall and resume research projects on nutrition, fluoride, and the benefits of cheese and full-spectrum light on the teeth. He will serve as a consultant to the school in Trinidad while his successor is found.

So far the link between the dental schools at the U of A and the U of the West Indies is an informal one, but Hargreaves suggests that the foundation for a lasting relationship is building. "Everyone in Alberta has been very helpful in setting this up. The cooperation between faculties of dentistry in Canada has always been excellent. That's one thing I've really enjoyed."



Dentistry Professor Emeritus Tony Hargreaves has been "working around the clock for two years" to establish the dental clinical training program at the University of the West Indies in Trinidad.

President, Council Elected

The Alumni Association has a new leadership team. The election of the alumni executive took place at the Association's annual general meeting, held on campus late this spring.

At the meeting, Grant Smith, a '68 BCom graduate, was elected president of the Association for the 1992-93 term. Smith is the president and CEO of H.P.I. Beverages Ltd., a custom packager of beverages for Western Canada. The "Soft Drink Industry Man of the Year" in 1988, he was recently invited to become a member of the Economic Development Council of Edmonton, and he is a former executive member of the Edmonton Chamber of Commerce.

The Association's newly elected representative to the University's Board of Governors is Graham Lock, '65 BSc (Eng). The president of Northwestern Utilities Ltd. of Edmonton and Canadian Western Natural Gas Company Ltd. of Calgary, he serves in the same capacity with CU Gas Ltd. and CU Water Ltd.

The Association's 1992-93 executive committee is rounded out by Vivienne Horne, '70 BEd, vice-president (finance & development); Sylvia Crevelin, '69 BSc(HEC), vice-president (special events); Bob Crawford, '52 BSc, '54 MSc, vice-president

(student affairs); Bryun Sigfstead, '67 DDS, vice-president (program development); Barbara Rocchio, '64 BSc(Nu), vice-president (public affairs). In addition, Christina Andrews, '86 MLS, sits on the executive committee. Together with Smith, she will represent the Alumni Association on the University of Alberta Senate.

The annual meeting also saw three faculty vacancies on Alumni Council filled. The new Agriculture and Forestry representative is Rod Simpson, '74 BSc (Forest), '86 MBA, the director of the program support branch of the Alberta Forest Service. The new Faculty of Arts representative is Donald Lee, '73 BA, '74 LLB, who heads his own professional corporation, and the incoming representative for the Faculty of Law is Lloyd Malin, '65 BA, '70 LLB, who chairs the business law department of the law firm Milner/Fenerty.

Dentist Sure to Brighten Smiles at Reunion Weekend

An encounter with the dentist usually doesn't leave people smiling—unless the dentist is Dr David Vassos, when he's engaged in his "other practice" as an entertainer and humorist.

Vassos, a '63 DDS graduate of the University of Alberta, has a flourishing Edmonton practice

specializing in dental implantology, and spends much of his time conducting courses on that subject. His entertainment practice, a hobby since his student days, thrives on appearances at banquets, conventions, and gatherings such as the University's Reunion Weekend '92 Gala Dinner and Dance, where Vassos, wearing his humorist hat, will be the guest speaker.

The young Vassos was exposed to the performer's spotlight, quite literally: growing up in Melville, Saskatchewan, he helped out backstage with the lighting for the concerts and bands his brother brought to town. Watching the performers toss out the same comedy bits and one-liners every night, the youngster discovered some tricks of the trade: "You learn that they rehearse absolutely everything," and that performing requires "sheer guts," Vassos chuckles.

As a U of A student in the early '60s, Vassos would "hustle jobs" to help put himself and three classmates through dental school. Calling themselves the

"Campus Four," this quartet featured bass fiddle, congo drum, guitar, and vocals. At the Mayfair Hotel or the Cafe Diablo ("the Cafe of the Devil," as Vassos recalls), they could make \$24 each a weekend—enough to pay the University's monthly \$75 residence bills.

After graduation, Vassos was reluctant to give up the spotlight, so he performed in some musicals with conductor Tommy Banks, and developed a stand-up comedy act for Banks' nightclub, the Embers. A regular singer on CBC radio, he also appeared in many Edmonton musicals and stage plays at the Walterdale Theatre, Theatre Three, and the Citadel.

When he tired of nightclub stand-up comedy, he formed a company providing entertainment for private gatherings such as conventions and clubs, and called it, "Comedy For Hire" ("If you do something for nothing, that's what it's worth," Vassos says). His hallmark was learning beforehand about the personal traits of selected members of the audience, and working good-natured jokes

Just another piece of plastic . . .



An application form is on page 19.

New Alumni Association president Grant Smith shows off his University of Alberta Bank of Montreal MasterCard card. 'It's a great way to support your University,' says Smith. A portion of the money that the Bank receives from purchases made with the card goes to the Alumni Association for its work in support of the University.

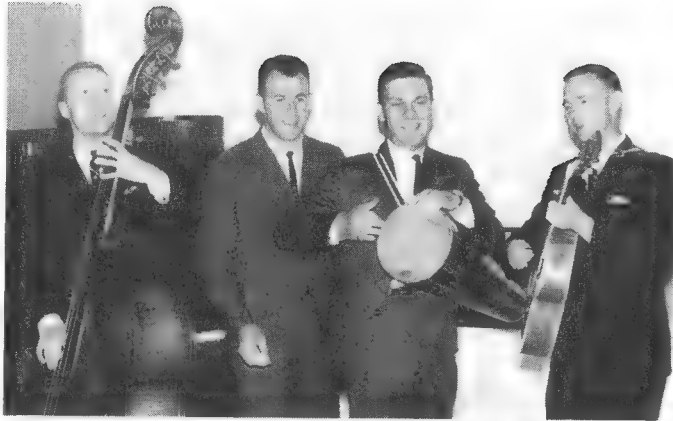
Engineers to Celebrate in Style

More than 50 per cent of the Engineering Class of 1942 have already jumped at the invitation of their coordinator Dr George Ford to return to campus to celebrate the golden anniversary of their graduation at Reunion Weekend 1992. Graduates from all over Canada and the United States have registered for events such as the Glenn Yarbrough Concert, scheduled for Friday, 2 October and the Gala Dinner on 3 October. On the following day they, along with the other gold and diamond anniversary grads, will be the guests of President and Mrs Davenport at a Sunday Brunch.

Bob Inkpen, the coordinator for the chemical engineers in the class, was so serious about making the celebration a success, that he travelled to campus all the way from his home in Spokane, Washington to check on his classmates and help make plans for the reunion. The engineering dean, Fred Otto, is also doing his share to make sure the grads enjoy themselves; he's organizing a "Golden Oldies" breakfast for the class.

For a complete reunions listing, see page 12.





about them into his comedy routine—"sort of like drawing a cartoon verbally," says Vassos.

Audiences loved the personally-tailored routines, recalls Vassos, who deplores the "foul-mouthed" and raunchy humor popularized by many comics today. He describes his own style as, "humor with a little class to it."

Vassos says he sometimes feels like a clinical psychologist when he's trying to figure out an audience. "No matter how long you've been doing it you don't know how each audience will relate," the comedian says. As a lecturer on implant dentistry for the University of Alberta's Faculty of Medicine, Vassos encourages students to get to know their patients as people. He calls comedy, "probably the best training I've ever had . . . for learning what makes people tick."

He also says that performing "keeps me sharp," and humor



Dr David Vassos, entertainer and dentist, will speak at Reunion Weekend. That's him on the bongo drum in the photo from his student days.

breathes life into the professional courses and lectures he gives. But what do his patients think? Vassos says that a great many of them have seen him perform over the years, and don't seem to mind that the man wielding the dental drill is a comedian: "They think it's great."

Association Calendar

Branches

San Francisco

Reception 18 September 1992
University Club of San Francisco/6:00 to 8:00 pm
Speaker: President Paul Davenport/\$15 per person
RSVP by 14 September: Kirk Miller, 777-5775 (ask for Iwana)

Los Angeles

Reception 19 September 1992
Official Residence, Consulate General of Canada/6:00 to 8:00 pm
Speaker: President Paul Davenport/\$15 per person
RSVP by 14 September/Consulate General, 687-4310 (ext 3201)

Toronto

Luncheon 27 September 1992
Oakville Club/12:30 pm
\$25 per person in advance; \$27 at the door
RSVP by 23 September: Cheryl Parry, 487-0057

1992 Class Reunions

The Alumni Association is happy to assist individual classes in organizing special events during the homecoming activities of **Reunion Weekend '92** (October 2-4, 1992) or reunions at other times. The following classes are currently planning reunions this year:

Class/Place/Date/Contact

- '22 Graduating Class Edmonton/Reunion Weekend/Eva McKittrick
- '32 Graduating Class Edmonton/Reunion Weekend/Alumni Office
- '32 Medicine Edmonton/Reunion Weekend/Herbert Stephens
- '32 Dentistry Edmonton/Reunion Weekend/Isadore Wolch
- '32 Law Edmonton/Reunion Weekend/Wilbur Bowker
- '32 Arts Edmonton/Reunion Weekend/Eunice Colville, Phyllis Young
- '42 Graduating Class Edmonton/Reunion Weekend/Alumni Office
- '42 Engineering Edmonton/Reunion Weekend/George Ford
- '42 Civil Engineering Edmonton/Reunion Weekend/Ralph McManus
- '42 Chemical Engineering Edmonton/Reunion Weekend/Bob Inkpen
- '42 Electrical Engineering Edmonton/Reunion Weekend/Ron Phillips
- '42 Commerce Edmonton/Reunion Weekend/Glen Patterson, Robert Torrance
- '42 Home Economics Edmonton/Reunion Weekend/Norma Trussler
- '42 Agriculture Edmonton/Reunion Weekend/Morris Hanson
- '42 BSc Nursing Edmonton/Reunion Weekend/Isabel English
- '42 Arts Edmonton/Reunion Weekend/Moira Cartwright
- '42 Medicine Jasper/September 16-19/Robert Francis
- '45-47 Commerce Edmonton/Reunion Weekend/Frank McEvoy
- '47 Home Economics Edmonton/Reunion Weekend/Lorna Connolly
- '52 Agriculture Edmonton/Reunion Weekend/Hugh Campbell
- '52 Medicine Jasper/September 16-19/JT Mason, FG Williams
- '52 Chemical Engineering Edmonton/Reunion Weekend/Bill Laurensen
- '52 Electrical Engineering Edmonton/Reunion Weekend/Bob Choate
- '57 Civil Engineering Canmore/Fall/Ted Bartkiewicz
- '57 Sept Dip Nursing Reno/October 20-24/Bonny Johnson
- '62 Medicine Kananaskis/September 18-20/Margie McCaffery
- '62 Sept Dip Nursing Edmonton/September 18-20/Kathy Szechchina
- '66 Engineering Edmonton/Reunion Weekend/Terry Hrudehy
- '67 Graduating Class Edmonton/Reunion Weekend/Alumni Office
- '67 Chem Engineering Edmonton/Reunion Weekend/T Craig Montgomerie
- '67 Civil Engineering Edmonton/Reunion Weekend/John McDougall
- '67 Commerce Edmonton/Reunion Weekend/Al Anderson
- '67 Education Edmonton/Reunion Weekend/L Everett-Turner, J Brauer
- '67 Arts Edmonton/Reunion Weekend/Jim Wuest, Frederick Chapman
- '67 Engineering Edmonton/Reunion Weekend/Pete Rivers
- '67 Home Economics Edmonton/Reunion Weekend/Joanne Roberts
- '67 Dentistry Edmonton/Reunion Weekend/Bryun Sigfstead
- '67 Agriculture Edmonton/Reunion Weekend/Lorne Krause
- '67 Law Edmonton/Reunion Weekend/Branny Schepanovich
- '67 Nursing Edmonton/Reunion Weekend/Kathy Oberle
- '67 Sept Dip Nursing Kananaskis/October/Barb Moon
- '67 Medicine Edmonton/Reunion Weekend/Dianne Brox
- '67 Pharmacy Edmonton/Reunion Weekend/Dave Ritchie, Brian Boyd
- '67 Science Edmonton/Reunion Weekend/Anne Wheeler, Judy Ross
- '67 Phys Ed Edmonton/Reunion Weekend/W Littlechild, J Lees, C Miskey
- '67 Rehab Medicine Edmonton/Reunion Weekend/Gary Link
- '67 Rehab Medicine Lethbridge/September 26-27/Gary Link
- '68 Graduating Class Edmonton/Reunion Weekend/P Ponting, M Pilkington
- '68 Pharmacy Edmonton/Reunion Weekend/Arlene Ponting
- '68 Agriculture Edmonton/Reunion Weekend/Brian Pinchbeck
- '68 Dentistry Edmonton/Reunion Weekend/Arthur Filyk, Bob Dunnigan
- '72 Chemical Engineering Edmonton/Reunion Weekend/Jim Rowley
- '72 Law Edmonton/September 18-19/Havelock Madill
- '72 BSc Nursing Edmonton/Reunion Weekend/Shirley Bigelow
- '82 Speech Path & Aud Edmonton/Reunion Weekend/Denise Kantypowicz
- '82 Rec Admin Edmonton/Reunion Weekend/Barb Chapman
- Dentistry 75th Anniversary Edmonton/Reunion Weekend/Dave Scott

Some locations and dates are tentative. Should you require information about the reunions noted, or if you wish to organize a reunion for a class or group not listed, please contact Elke Christianson in the Office of Alumni Affairs at (403) 492 0117.

At Work on the Frontiers of Dentistry

Studying a Temperamental Joint

When researchers from the Temporomandibular Joint Investigation Unit at the U of A went searching for adolescents suffering chronic jaw pain for a recent study, they didn't have to look far.

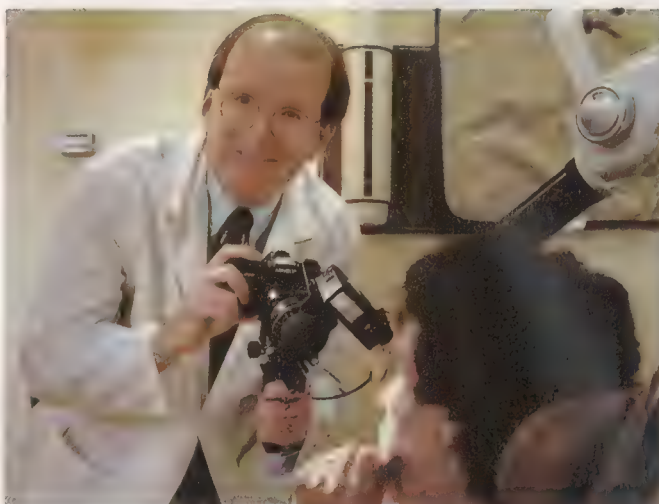
Paul Major, the Faculty of Dentistry professor who directs the unit, recalls being amazed at the number of young people referred to the study by Edmonton-area medical practitioners and dentists. There were not only the 150 patients aged 13 to 17 who were eventually included in the study, but almost twice as many more.

"We didn't really realize there would be that many adolescents until we started looking for them," says Major, who is an associate professor in the Faculty's Department of Stomatology—the area that deals with the whole mouth and related diseases.

Public awareness of the temporomandibular joint—which has become known by the three letters "TMJ"—peaked in the mid-1980s when the media spotlight focused on the chronic suffering associated with disorders related to the joint that connects the jaw to the upper portion of the skull. The glare of media attention has now diminished, but TMJ problems remain every bit as prevalent, says Major.

The TMJ Investigation Unit was established in 1983 at the University of Alberta Hospitals' dental clinic and functioned primarily as a treatment clinic. Its 1986 move to the fourth floor of the Dentistry-Pharmacy Centre to be under the wing of the Faculty of Dentistry coincided with a change of mandate. Instead of trying to "provide as much treatment as it could," the Unit began selecting patients based on their suitability for its research initiatives.

"We do provide some general treatment, but we always have some sort of research project that we are trying to put people into based on where their particular problems fit," says Major.



Dr Tim McGaw, shown photographing the jaw of a patient, is one of Dentistry's 40 full-time faculty members. (The Faculty also has 125 part-time faculty and 20 technical staff.) McGaw is involved in a variety of research, including a project to help cancer patients whose medication causes an overgrowth of gums, and he is the co-applicant for a grant proposal aimed at building a better dental laser.

The recently-completed, three-year study of adolescents illustrates the work the unit does. This study began by addressing a variation of the old "chicken or egg" question: "We recognize in adults that TMJ patients tend to have certain psychological profiles," explains Major. "The question is whether the psychological profile precedes the disease or does the chronic pain create the profile."

The latter, it seems. Preliminary findings show no evidence of any characteristic psychological traits in this group, which was studied because, having lived with the suffering for a shorter time, it would be less likely to have been shaped by it. "We can't really single them out from any other patients in terms of psychological profile," says Major of the teenagers studied.

Clinical work associated with the second phase of the study of adolescent TMJ sufferers is now complete. It compares the effectiveness of current approaches to treatment—these include biofeedback, physiotherapy and occlusal splints. The findings are expected to be ready for release later this year.

According to Major, the "whole TMJ disease process"

wasn't understood until the early 1980s and then there was an explosion of information—primarily on diagnosis. "We've got so that we're pretty good at figuring out what's going on," he says, "not so good on what would be the best mode of treatment or what the likely treatment outcome would be. We still tend to work from anecdotal information; we need to establish some science behind it."

Looking for Connections

Tooth structure, gum disease, TMJ disorders, burn scars . . . While the investigations fostered in the busy laboratory of dentistry professor Paul Scott touch upon a surprisingly wide variety of topics, they all radiate from a decidedly fixed axis: the biology of connective tissues.

To illustrate the importance of connective tissue, Scott, a professor in Dentistry's Department of Oral Biology, tells of the dramatic way in which a colleague from France introduces this subject: he first shows a slide depicting Adonis—the perfection of the human body; the next slide offers the image of a beaker of indeterminate liquid—that same body "*sans tissu conjonctifs*."

Connective tissue maintains the shape of the body and gives mechanical strength to skin, tendons, ligament, bone and cartilage. Among its specialized forms are gingiva (the tissue of the gums) and the dentine that forms the tooth.

Yet another form of connective tissue studied intensively in Scott's laboratory is that which makes up the fibrocartilage disc which destabilizes the temporomandibular joint, permitting the sliding and rotating movements essential to the functioning of the jaw. Scott says that the biochemical composition of this disc is "not very well studied at all." He is interested not only in determining exactly what the disc is made of, but in seeing how its composition changes with use or aging, and how those changes might affect its physical properties and ability to function.

This relationship of biochemical composition to physical function is a theme that runs through most of Scott's work. His investigations are, in his words, "aimed at understanding how the chemical structure of connective tissue determines its physical properties and how these physical properties might be altered if the chemical structure is altered."

It is Scott's "working hypothesis" that the same cells have the potential to make all of the components of the different types of connective tissue. It's possible, he suggests, that the physical environment in which these cells find themselves—under compressive loading, or subject to shear or sliding forces, for instance—determines the variations.

"If one takes cells from many different connective tissues such as skin, gingiva (gums), sclera (the white of the eye), tendon, knee meniscus, and temporomandibular joint disc, and you put them in culture, they all tend to make very similar things," explains Scott. He wants to know if that's because of the culturing process or if the lack of differentiation points to the tissues being

Working with the Justice System

In 1972 Wayne Boden was sentenced to life imprisonment for the murder of a young Calgary school teacher. The man who put him in jail was a dentist.

Because the victim's body displayed what appeared to be human bite marks, Calgary orthodontist Gordon Swann, a '50 DDS graduate of the U of A, was asked to do a comparison study of the marks and the teeth of the suspect, Boden. Swann's study was conclusive: the bite marks were Boden's. It was the first time that bite-mark evidence was successfully used to convict a murderer in Canada. Using the same method, called "direct geometric projection," Swann later helped Montreal police identify three more of Boden's victims.

The pioneer Alberta forensic odontologist no longer practices this branch of dentistry dealing with legal issues. He says that in the 10 years since his involvement in the Boden case, "my experience as an expert witness increased while my enthusiasm for courtroom confrontations diminished."

Like Swann, Calgary dentist Dr Bill Blair "kind of fell into" forensic odontology when asked to identify the remains of a deceased patient. Blair is a '69 DDS graduate of the U of A and the Faculty of Dentistry's lecturer on forensic odontology. In 1980, after fulfilling qualifications that included a certain number of autopsies, identifications, court appearances and a written exam, Blair became one of only four board-certified forensic odontologists in Canada (the certification board and the remainder of the approximately 100 members are in the United States).

Blair says the demand for forensic practice increased in the 1970s when Alberta changed from the coroner system to the medical examiner system, which requires identification of dead bodies. In 1976, in a case where the victim of a violent attack survived, Blair was the forensic odontologist involved in the first Canadian criminal conviction relying on bite-mark evidence in living tissue.

Particularly in the United States, forensic odontologists are used as expert witnesses in dental malpractice lawsuits—for instance, if a patient sues after receiving a broken jaw while having a tooth extracted. Unlike their American counterparts, Canadian forensic odontologists work almost exclusively for the Crown, helping medical examiners, coroners, and police.

Dr Carl Hawrish '67 DDS, is an Edmonton dentist who specializes in endodontics (dentistry of the tooth pulp) but also works as a forensic odontologist. He cites "the Finnish connection" as an example of a case where law enforcement and forensics worked successfully together. This recent case involved the unidentifiable body of a woman found in Valemout, British Columbia. Hawrish was asked to examine the jaws and noted some distinctive dental work that he thought had possibly been done in Europe. Based on that observation, Hawrish arranged for a description of the woman's dentition to be circulated across Europe by Interpol, as well as in Canadian bulletins. Through dental records, a family in Finland was able to identify the woman as their daughter, and a man she had been associated with in Canada was convicted of her murder.

His involvement in forensic odontology is kept completely separate from his regular practice, Hawrish says, admitting, "It's a little on the gruesome side, and most patients don't want to know anything about it." However, Hawrish emphasizes that the skills forensic odontology demands, such as keeping careful records, are useful for any general practice dentist to learn.

Hawrish finds that his forensic sideline has a certain appeal for dental students: "When you introduce the topic to a class of 50 students they all want to get involved working at the investigative level with police." Although in the United States there are professionals employed exclusively as forensic odontologists, the demand for this specialization is much lower in Canada. "Fortunately, there just aren't enough cases to go around," says Hawrish.

shaped by the physical stresses they experience. To answer that question, Scott has recently begun using hydrostatic techniques for stressing cells.

Scott's work is funded in part by two grants from the Medical Research Council of Canada. The most recent of these grants focuses his interest in the properties of connective tissues upon the troublesome scars formed as the result of burns.

"The connective tissue in these scars is quite different from normal skin and different even from most scars, which are nowhere near as bad physically," says Scott, adding that the very thick, red, itchy burn scars can cause problems that last for years.

The oral biology professor says that, viewed through a microscope, the collagen fibres, which are integral to all connective tissue, are not organized as neatly in burn scars as they are in normal skin. Instead of well organized fibril bundles, he sees tightly packed whorls and nodules. Preliminary evidence also points to the components called proteoglycans—part of the background mixture in which the collagen fibres are embedded—being different in burn scar tissue.

He says that ultimately he and his collaborators want to be able to manipulate the burn scar cells to make a different mix of macromolecules, thereby speeding the resolution of this "very undesirable, very unpleasant phase of healing."

Building A Better Dental Laser

Dr John Tulip would like dentists to be able to truthfully tell their patients that "it won't hurt a bit."

Tulip, a U of A electrical engineering professor, has collaborated with the Faculty of Dentistry for ten years. He wants to replace the dental drill with a briefcase-sized dental laser that would use a fibre optic channel as fine as fishing line to direct a painless laser beam into a patient's mouth.

And he has the credentials to do it. While still a graduate student in 1965, he built England's first carbon dioxide (CO₂) laser. Lasers of this sort

were first used in industry, but since then have been successfully used in medicine and for cutting soft tissue (gums) in dentistry.

Originally, the noisy, expensive industrial laser apparatus occupied a whole room. At a recent conference, a colleague excitedly told Tulip about the new suitcase-sized industrial laser that Siemens, the German electronics giant, was introducing. Tulip had to smile—Siemens licensed the technology from Boreal Laser Inc, a U of A spin-off company that handles the business side of the technology Tulip invented.

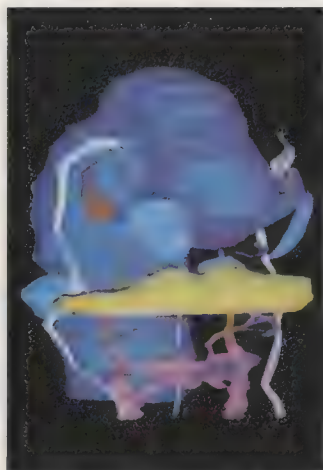
With this technology, Tulip hopes to develop a laser capable of cutting teeth, one that would be compact, quick, quiet, inexpensive, safe and practical for dentists, and make dentistry anesthetic-free and pain-free for patients.

"Pain is all time and heat," Tulip says. His laser avoids both by working in quick pulses that vaporize the hard enamel and dentin of the teeth. Patients in Germany who have experienced trials of a similar dental laser (but one lacking many of the advantages a CO₂ laser offers) report feeling a sensation "like the prick of a pin," the professor says.

One of the benefits of the CO₂ laser is its hushed operation. "Noise will create the perception of pain," Tulip says. He adds that the absence of the whine of the turbine drill—which can sound like a jackhammer to some ears—may help relax fearful patients.

The dental laser research Tulip has proposed to the Natural Sciences and Engineering Research Council would take at least three years and the new laser would be thoroughly tested before being exposed to a small pilot study of volunteer patients. Dr Timothy McGaw of the Faculty of Dentistry is the co-applicant for the project.

Although he predicts that the widespread use of lasers to cut teeth is "years away," Tulip adds, "If a dentist could hang up his shingle promising that it wouldn't hurt, he could attract a whole new group of patients who stay away from the dentist."



In this computer-generated graphic reconstruction of the face of a 28-day-old human embryo, the precursors of the nose and ears are highlighted in light blue. The brain is dark blue, and the yellow bar is the future jaw. Image courtesy of Ivano Ongaro.

Images of Human Life Evolving

Quickly, June Dabbagh scans the computer keyboard in front of her and then punches a sequence of keys. Almost as if it were performing a slow motion dance to the click-click of the keys struck by the dentistry student, the image on the screen rotates and reforms.

The bright primary colors forming the picture on the monitor combine in what appears to be an abstract composition, but underlying the image is a grim reality: this is a reconstruction of the anatomy of a miscarried human embryo.

Dabbagh, an '87 BSc graduate of the University, is one of two oral biology MSc students assisting in a study addressing a multiplicity of questions—including the cause of spontaneous miscarriages—by gathering information about the earliest stages of human development.

"By understanding normal development, we can better understand the way things go wrong," says Dr Geoffrey Sperber, a professor in Dentistry's Department of Oral Biology, who is directing the research in collaboration with pediatric pathologist Dr Geoffrey Machin. "We are establishing for the first time the dimensions and rates at

which the fetus grows," says Sperber.

The professor's particular interest is craniofacial embryology—the formation of the face during fetal development. He wants to understand the biological mechanisms behind the occurrence of the wide range of facial deformities, the most common of which is cleft lip.

To glimpse what Sperber calls the "fascinating flow that takes place as tissues migrate to specific sites to form the face," Sperber, Machin and their research assistants are employing the same Auto-CAD computer technology used in the construction industry to bring building plans to three-dimensional life. The software was adapted for the study by the fourth member of the research group, graduate student and U of A alumnus Ivano Ongaro, '75 BSc, '78 DDS.

Using an electronic scanner and tracings derived from stains of tissue sections, the U of A researchers are able to transfer extremely detailed information about the developing organs of an embryo into the computer program, which graphically reconstructs that information into the startling clarity of a brightly-colored, three-dimensional image.

"We're applying new technology to an old problem," says Sperber, who marvels at the "incredible speed of human development" in the womb. In a recent issue of the *Cleft Palate-Craniofacial Journal*, Sperber writes of the "cascading set of events, critically timed, to transform the faceless front of the forebrain into human physiognomy."

For specimens, the study relies on embryos of up to 16 weeks of development that have been spontaneously rejected by the mother's body, and Sperber is sensitive to the feelings of tragedy that surround that loss of an awakening life. "We're trying to understand why that death occurred," he says.

At the same time, he points out that many of the embryos that have been graphically reconstructed for the study were ill-equipped for life: more

than half the embryos that his group has studied have been seriously malformed.

"It's amazing the way Nature has this protective mechanism," says Sperber. He adds that no one knows how the mother's body is able to recognize that the development of the flowering life within its womb has gone awry and then spontaneously terminate it—here is another mystery to which the dancing images on the computer screen may someday contribute clues.

From a Graduate's Digression

William Youdelis has a doctoral degree in metallurgy, not dental surgery, but that hasn't stopped him from leaving his mark on the dental profession.

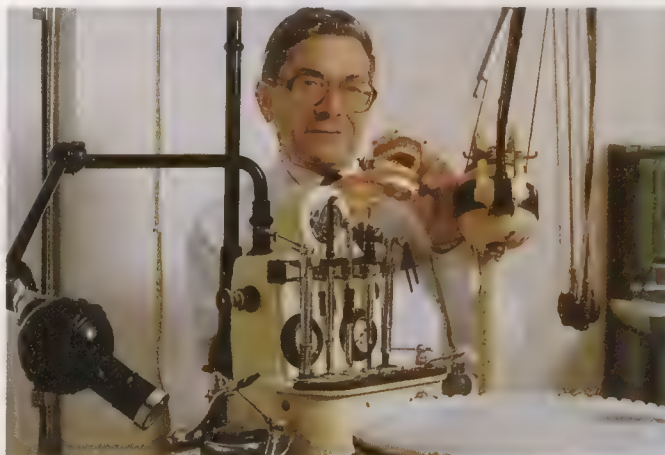
Youdelis, a 1952 engineering graduate from the U of A, is the inventor of two patented amalgams used for dental fillings. His first digression into dental materials (his major research concentrates on metal alloys used for such things as reactors and jet engines) was the result of a family argument.

Over a Sunday dinner in 1961 Youdelis, then an associate professor of metallurgy at the University of Alberta, and his brother Ralph, a 1955 DDS

graduate, had a friendly debate about the merits of their professions. As a result, the dentist challenged the metallurgist to improve on the material used for dental fillings. At the time, the silver amalgam widely used for fillings—essentially unchanged since its introduction in 1895—tended to darken, corrode and fall out within eight to 10 years.

Within two years Youdelis had developed a better amalgam that lasted twice as long. Much of the testing of the new amalgam, which featured a fine powder of silver and copper alloy dispersed throughout the material, was done in the children's dentistry clinic at the University.

The new material, which Youdelis later patented and called Dispersalloy, was a success. Although Youdelis left Alberta in 1965 for a position as head of the department of Engineering Materials at the University of Windsor (a position which he still holds), Edmonton businessman Fred Drury manufactured the material locally until the early '70s, when Dispersalloy held 50 per cent of the Western Canadian amalgam market. Johnson & Johnson now holds the rights to Dispersalloy and through



Reminders of days gone by: Dentistry professor Geoffrey Sperber demonstrates a teaching model used by the late Hector MacLean, a former dean of Dentistry at the University. Sperber, who stands behind a dental operating unit from about 1930, is the curator of the University's dental museum, which features not only dental instruments but anthropological and natural history specimens. While the bulk of the collection is in storage—"that's the reality of budgets today," says Sperber—he welcomes visitors (advance arrangements must be made). The curator describes the collection, the only one of its kind listed in the Canadian Museum Directory, as "a resource for which many people would give their eyeteeth."

worldwide marketing has made it a multi-million dollar product.

When he sold his Dispersalloy rights to Johnson & Johnson, Youdelis agreed not to work in dental amalgams until the original patent expired in 1985. Since then, he has been developing a new patented amalgam, called Indisperse, based on an idea he formulated years ago before leaving Alberta.

Indisperse has the same properties as his first amalgam, even improves on it by 10 to 15 per cent, Youdelis says. But, he adds, its best feature is that "it substantially reduces the amount of mercury that is released by the amalgam over the years—biologically and environmental-

ly, it's much safer."

The amount of mercury released from the amalgam is reduced and its strength increased by the inclusion of Indium, the element for which the product is named. Youdelis predicts, "For it to really take off, we need the dental profession's awareness of the problems associated with mercury."

Ironically, the inventor says his biggest challenge in marketing Indisperse is overcoming his old product. Youdelis says Dispersalloy still holds 40 per cent of the amalgam market—and its rivals include copycat products produced by other companies since the expiry of his original patent.

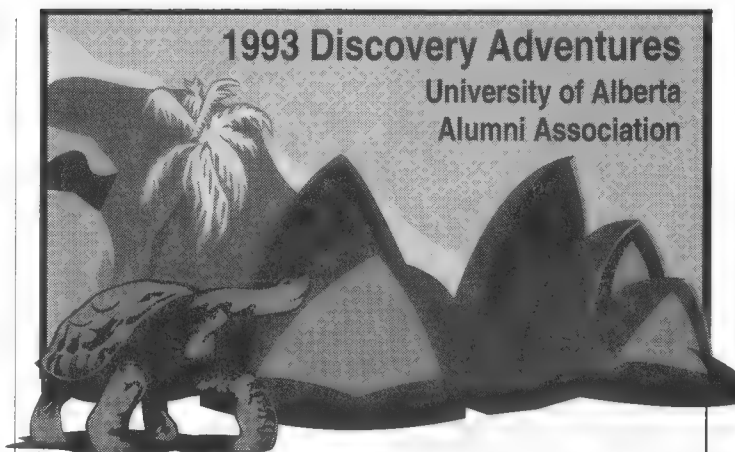
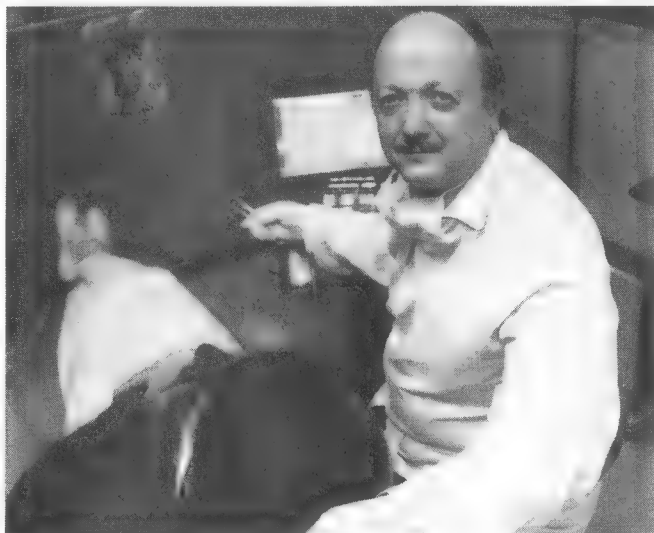
Interests Lead to Wide-Ranging Work

Dr Gordon Thompson's interest in both mathematics and dentistry has led him into epidemiology, a branch of medical science that deals with the incidence, distribution and control of disease in populations. His work is wide-ranging, not only in subject matter—it covers orthodontics and diseases such as dental caries, periodontal disease, oral cancer and systemic diseases—but geographically as well.

He has participated in projects in Scotland and Portugal and is currently setting up an oral health status survey for Ecuador. "There's a growing need for these studies in developing countries because the prevalence of tooth decay is increasing," he notes. "Westernized nutrition with its higher sugar content is the cause." Closer to home, Thompson is participating in the oral health component of an over-all health status assessment of people in the Keewatin District of the NWT.

Epidemiological studies bring to light levels of disease and contribute the information for proper planning of personnel requirements for treatment and prevention programs. Yet Canada has never done a national survey of dental health. Over the past four years, Thompson has chaired a national committee that is organizing such a study, which should take place in 1994.

Thompson is interested in both mathematics and dentistry.



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An Affinity of Bone and Metal

Johan Wolfaardt picks up an ear from his desk. The University of Alberta professor is not a particularly garrulous man—not, it must be said, the sort to talk your ear off—but his enthusiasm makes him quite willing to speak at length about his current work.

Wolfaardt is a professor in the Faculty of Dentistry's Department of Restorative Dentistry. The ear he has taken into his hands is made of silicone rubber sculpted and colored to an uncanny realism. Soon it will be given to a patient to replace an ear lost in a motor vehicle accident.

Although the lifelike quality of the sculpted ear is striking to one unaccustomed to viewing such prostheses, there is nothing especially novel about the realism—for many years specialists in maxillofacial prosthetics have provided patients with prostheses of realistic appearance to replace parts of the face claimed by mishap or the ravages of disease.

The focus for Wolfaardt's enthusiasm is the manner in which the ear he has crafted will be attached. Most commonly, explains Wolfaardt, prosthetic face parts are attached with messy and troublesome adhesives, often with less than satisfactory results. "You wouldn't believe," he says, "how many stories I have heard of these things coming off. Typically, the person is at a dinner party and has their ear fall off . . ."

With capable fingers, the professor turns over the prosthesis to reveal a series of metal clips. These will fasten to a small bar held in place by titanium fixtures implanted into the bone surrounding the opening to the patient's auditory canal. The result will be a durable method of attaching the prosthesis.

The technique, explains Wolfaardt, is a further development of the procedure now widely used to anchor false teeth using fixtures implanted into the jaw—the technology that may soon make loose dentures all but obsolete.

With plasticsurgeon Gordon Wilkes, a '75 MD graduate of the University, Wolfaardt has been instrumental in establishing the Craniofacial Osseointegration and Maxillofacial Prosthetics Rehabilitation Unit, soon to open at Edmonton's Misericordia Hospital. Wolfaardt expects that the unit he describes as "the first in the world dedicated to this technology," will be fully operational by January 1993.

COMPRU (not surprisingly, the unit has quickly become known by its acronym) is a joint undertaking of the University and the Misericordia and will involve the University Faculties of Dentistry, Medicine, Education and Rehabilitation Medicine. Wolfaardt and Wilkes will serve as co-directors; they are now setting up a research team to work out of the unit, which will incorporate the contributions of research and clinical fellows, as well as specialized support staff.

The funding for COMPRU is coming from Alberta Health, and Wolfaardt has abundant praise for the "incredibly thorough" approach the provincial department took to investigating the project before agreeing to fund it.

"We were really impressed at how carefully [Alberta Health] looked at this," says the professor.

Wolfaardt was born in Zambia and lived much of his life in South Africa. It was there that he became interested in the implant technology developed in Sweden based on the work of Professor Per-Ingvar Brånemark of Gothenburg. In 1982 Wolfaardt, then a dentistry lecturer at the University of Witwatersrand—the school where he had distinguished himself on his way to earning bachelor's, master's and doctoral degrees—had studied Brånemark's, dental implant techniques, but pursuing his interest in the application of the work to craniofacial surgery proved difficult in a South Africa cut off by sanctions.

The seminal event in the history of the soon-to-open Craniofacial Osseointegration and Maxillofacial Prosthetics Rehabilitation Unit was a conversation that developed at a 1987 Christmas party. Here, Wilkes and Wolfaardt met for the first time. Earlier that year, the latter had relocated to Edmonton, having been recruited by the Faculty of Dentistry, and was giving thought to furthering his interest in Brånemark's craniofacial work.

As he chatted with Wilkes, Wolfaardt discovered that the plastic surgeon, now chief of surgery at the Misericordia, had also had his imagination stirred by the Swedish implant work having some months earlier heard the Australian surgeon Harold McCoombs speak about his use of the technology in plastic surgery.

"Within half an hour, we discovered we had a real affinity," says Wolfaardt, recalling that serendipitous Christmas encounter. Within a year the two were off to Sweden for a training course at the University of Gothenburg.

The technology they immersed themselves in there is based on an observation made more than three decades ago. While performing test tube studies of the bone marrow of rabbit fibula, Brånemark discovered that bone tissue readily united with titanium. There was not—as happens when most metals is brought into long-term contact with bone—the formation of an intervening level of soft tissue.

"It's really remarkable," say Wolfaardt, about the bone tissue's ready acceptance of titanium. "It turns out," he explains, "that there is an oxide layer that forms on the surface of the titanium. It's that oxide that tissues seem to like." Such is the affinity of tissue and the metal that the titanium essentially becomes part of the patient.

Brånemark was struck by the implications of his observation, seeing a way to permanently anchor prostheses in

The ready acceptance of the metal titanium by bone tissue



is behind the work of a U of A dentistry professor and a new initiative in implant technology.

By Rick Pilger

living tissue. The first application developed from his research was a technique for securing dental prostheses in the jaw, and many years' experience has confirmed the body's ready acceptance of titanium anchors. In 1981 Brånemark and his associates published the results of a 15-year study



Dentistry professor Johan Wolfaardt [left] and plastic surgeon Gord Wilkes examine a mold for the making of a prosthetic ear. When the two met at a Christmas party they discovered a ready affinity, which has led to their work in founding the Craniofacial Osseointegration Maxillofacial Prosthetics Rehabilitation Unit, soon to open in Edmonton.

The drawing at the right illustrates the mounting of a prosthetic ear using the patented Brånemark Technology.

in the *International Journal of Oral Surgery*. Covering almost 3,000 implants made in 371 patients between 1965 and 1980, the study showed an over-all success rate of 96 per cent for prostheses in the upper jaw and 100 per cent for lower-jaw prostheses.

Research related to the use of titanium implants for applications in which they would penetrate the skin began in the mid 1970s. The first clinical application to result from this work was a bone-anchored sound-processing device for hard-of-hearing patients unable to use a conventional hearing aid.

Mounting the bone-anchored hearing device involves implanting a titanium fixture into the bone behind the ear. When the fixture has been integrated and the site has healed, a second operation removes the hair-bearing skin above the fixture and replaces it with a transplant of thin skin free from hair sacs. A hole is punched through this skin to allow the fitting of a skin-penetrating abutment, also of titanium. When the transplant has healed, a hearing aid that stimulates the hair cells of the cochlea via vibrations in the bone is mounted on the abutment.

The bone-anchored hearing device works extremely well says Wolfaardt, whose primary interest is the other major skin-penetrating application

developed to date. This is the attachment of facial prostheses—commonly ears, but also eyes, noses and even whole sections of the face. It involves a procedure very similar to that employed for fitting the bone-anchored hearing aid; however prosthesis attachment typically involves a series of anchors to which is fitted a bar (or bars) of precious metal. To this bar the prosthesis is fitted using retention clips.

When Wolfaardt and Wilkes returned from their training in Sweden they were eager to begin using the Brånemark technology in Alberta. They were able to do so thanks to the Rotary Club's Mayfield Branch in Edmonton. The branch, having heard a presentation made to them by Wilkes and Wolfaardt, provided them the funds that made possible purchase of the equipment necessary for them to proceed.

Looking back, Wolfaardt describes his initial involvement in the craniofacial implantation work as "an expensive hobby"—expensive in terms of both time and energy. "There just wasn't the infrastructure to support what we were doing. We could get money to treat patients, but there was no money to build the infrastructure." Clearly that infrastructure—the necessary technical, clinical and research support—had to be in place for them to develop the technology as they thought it should be.

But would others share their enthusiasm? "This was high-tech biomedical technology," says Wolfaardt. "Considering the demand for health-care dollars, the question in any health-care provider's mind has to be 'Is this really meaningful in our community?'"

To determine if the wider community would support their implantation work, Wolfaardt and Wilkes arranged to meet with a wide variety of groups and individuals. They found themselves extremely well received. "The community support developed much quicker than we had anticipated. It was just tremendous," recalls Wolfaardt.

Assured that the medical technology they were proposing would meet a genuine need in the community, Wilkes and Wolfaardt approached the provincial health-care department in mid-1991. Funding for the new osseointegration unit was announced in April of this year.

"Everyone seemed to want this pretty badly," says Wolfaardt. "Right now we're the envy of the country," he adds, noting that similar work is underway in Toronto and Vancouver, but the newly-funded unit puts the Edmonton group a "long way ahead" in terms of patient management and developing a treatment centre dedicated to the implant work.

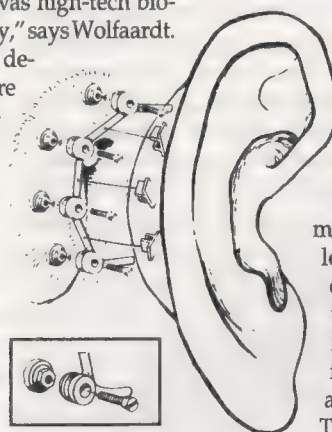
"Once we get going we will be setting standards, not playing catch-up," says the Dentistry professor, who praises the "tremendous teamwork" that has laid the foundation for COMPRU—in particular he notes the role of the Faculty of Dentistry in nurturing the work.

The Craniofacial Osseointegration and Maxillofacial Prosthetics Rehabilitation Unit will be interdisciplinary in nature, drawing individuals from across campus and beyond. Its letterhead lists specialists in maxillofacial prosthetics (Wolfaardt), plastic and reconstructive surgery (Wilkes), otolaryngology (Dr John C DiToppa), pathology (Dr W Timothy McGaw), psychology (Dr Henry L Janzen), speech pathology (Dr Ann Rochet) and audiology (Mr Wayne MacLean).

While COMPRU's initial focus will

be use of the osseointegration technology for the fixing of facial prosthesis, Wolfaardt envisions involvement in pioneering new applications. "There are so many things this could lead to," he says. "It could, for instance, be used for stabilizing stress fractures, or as a means for providing repeated access to the cranial vault. There are just so many things..."

There's only one cloud in an otherwise clear sky: everybody, it seems, is interested in hearing about the implant work. "There are so many invitations to lecture," says Wolfaardt, "that I really don't know how to deal with them all."





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The Changing Face of Dental Care

Alumni of the University of Alberta's Faculty of Dentistry who have gone on to careers in public health, private practice and dental research and education are among those who are extending the dental care professions beyond their traditional boundaries into an exciting future.

New Trail spoke to a sampling of graduates from the Faculty of Dentistry, among them several recent winners of the Outstanding Achievement Award given by the Dental Alumni Association each year.

The following is a summary of their thoughts on the changing face of dental health care.

Modern dentistry is a profession working towards its own extinction, many dentists say.

Retired Lethbridge orthodontist Dr Van Christou, '48 DDS, is one dentist who would like to see the historic occupations of the dentist, such as extracting teeth, making dentures and repairing decayed teeth, eliminated through preventative dental care. "That's the objective of the profession, an objective that I'm afraid is being lost," he says. "I'm quite proud of the fact that dentistry has led the healing professions in prevention, but I see a tendency towards pursuing more complex and costly treatments," Christou says.

Modern dental professionals might create a picture of a patient's new smile using computer imaging, use dental lasers to perform oral surgery painlessly and without anaesthetic, help reconstruct a disfigured face with dental implants and prostheses, or use a computer-driven milling machine to precisely measure and cut a crown to restore a damaged tooth.

Because the work of dental professionals is changing, many of them feel that "dentist," a word that was coined from French in the 1750s ("dent" is French for "tooth"), is outdated and no longer reflects what they do.

"There are some areas of the world where [dental professionals] are called stomatologists," says Dr Gilbert Utas, '64 DDS. Utas says that

since "stoma," meaning mouth, has a broader meaning than "dent," which refers only to teeth, stomatologist is a more appropriate term that encompasses the scope of dental practice today.

Looking into his "personal crystal ball" at the future of the profession, Utas says, "The dentist, as we know him now, will become more of a diagnostician and treatment planner. We will have electronic technicians to perform the work."

Dental professionals of the future, whatever they may be called, have many crude historical prototypes. Dental ailments and their folk remedies have probably existed since the beginning of mankind—there is evidence to suggest that King Tut died of tooth decay. In the thirteenth century guilds of travelling dental professionals known as barber-surgeons formed in Europe, performing tasks that were below the dignity of the physician, such as blood letting, leeching, giving enemas, and extracting teeth. Black-

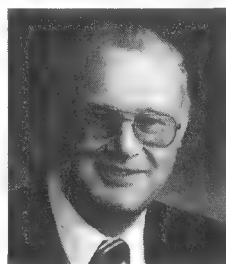
smiths and goldsmiths, who often made dental implements and appliances, were not above doing dental work either.

A distinct dental profession grew in the eighteenth century with the increased consumption of sugar, which caused a greater instance of tooth decay. In the same era, local and general anaesthetics such as cocaine and nitrous oxide (laughing gas) became widely used, which made a visit to the dentist a little more pleasurable.

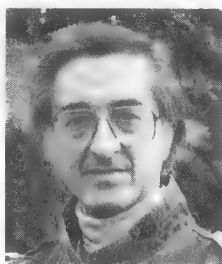
Today, some of the traditional functions of the dentist are changing or being eliminated. For example, in many dental practices preventative dental care is now handled by a dental hygienist. "Hygienists are now viewed as prevention specialists functioning as an integral part of the dental team," says Jean Suvan, a '77 graduate of the Dental Hygiene diploma program at the U of A who is now an instructor at the Dental School at the University of Bern in Switzerland. She predicts that the dental hygiene profession will grow as the population ages and the need for preventative dental services increases.

New materials and techniques have also changed the profession. Dr Gordon Swann, a '50 DDS graduate who has practised orthodontics in Calgary for 40 years, says that orthodontists used to require extensive training in forming orthodontic appliances, but "today, many of the technical problems have been reduced to a minimum," he says.

Some of the most exciting changes in the profession involve the development of devices that in many cases could outperform the manual dexterity of the dentist. Dr Terry Donovan, '67 DDS, dean of the School of Dentistry at the University of Southern California in Los Angeles, believes it is important for the profession to be knowledgeable about all the new technology available to dentists, and for patients to have the option of receiv-



Dr **TED ALLISON** has had a general dental practice in Calgary since his graduation from the U of A in 1953. He has been active in Calgary District, Western Canada, Alberta, and Canadian dental organizations, and was the ADA and CDA liaison to the 1988 Calgary Winter Olympics.



Dr **VAN CHRISTOU** obtained an MSc in orthodontics and practised in Lethbridge until retiring in 1987. A member of the first U of Calgary Senate, he was a strong advocate of establishing a liberal arts university in the province. He is chancellor emeritus of the U of Lethbridge, from which he received an honorary degree in 1984.



Dr **TERRY DONOVAN** is dean of the dental school at the U of Southern California in Los Angeles, where he has chaired the section of biomaterials science and been director of restorative clinical research. He holds a certificate in advanced prosthodontics from USC, and is a renowned authority on restorative dentistry.



Dr **JOHN STAMM** has been dean of the dental school at the U of North Carolina since 1989. After graduation from the U of A he obtained an undergraduate degree in public health and a master's degree in epidemiology and biometrics from the U of Toronto. Previously, he was a professor at the U of Toronto and at McGill U.



Prof **JEAN SUVAN** is a past president of the Alberta Dental Hygienists Association (1991-92). She now works in Switzerland as a clinical instructor in the department of periodontology at the U of Bern. She has worked as a clinical practitioner, a consultant, and an academic instructor in dental hygiene since 1977.

ing these often expensive new treatments. But he adds, "My big warning to dentists is don't get enamored of high tech. Make sure its really going to solve the problem before using it."

Donovan gave the Hector MacLean Memorial Lecture in Edmonton earlier this year on his particular area of interest, restorative dentistry. He says that new materials are now available for crowns, bonding, and adhesive dentistry, which can improve the cosmetic appearance of teeth by changing their shape or color. "There is tremendous value placed on appearance by society these days," Donovan says, explaining the growing popularity of cosmetic dentistry. "In California, people are crazy for esthetics. It's become a bread and butter part of dentistry."

The dental profession is involved with another type of restoration: correcting the mouths of children born with cleft lips or cleft palates. The School of Dentistry at the University of North Carolina is a leading research and treatment centre for cleft lip and cleft palate children, says Dr John Stamm, '67 DDS, dean of the School. At UNC speech pathologists, social workers, psychiatrists, dentists, and other health professionals are part of an interdisciplinary approach to correcting and studying lip and palate irregularities, which affect one in 800 children, Stamm says.

Multidisciplinary health care is "a trend that's coming," says Dr Alan Wu, '66 DDS, the dental officer of health in the Ottawa-Carleton Health Department. Wu is also the director of the Child and Adolescent Directorate, which runs dentistry, immunization, and a variety of health and sexuality programs for school children in the region.

He says that health care will benefit from the collaboration of various health professions. "It's been happening in Ontario for a

few years now, but its quite difficult to convert to a multidisciplinary model—health professionals get 'tunnel vision' as to our own roles. Thinking a little more to a global picture of health is a big step," he says.

Dr James Wright, '56 DDS, now associate dean of the dental school at the University of Manitoba, has worked in the world health field in his role as director general of dental services for the Canadian Forces from 1982-86. During that time, Wright chaired a committee on developing dental equipment suitable for use in developing countries. "You get out in areas where there's no electricity, no portable water, and perhaps one dental professional for millions [of people], and our equipment is much too sophisticated."

Wright predicts that in the future dental care will spread to developing countries as well as to segments of our own population that often lack dental services: the elderly, hospitalized, medically compromised, or socially or economically disadvantaged. Dental students at the University of Manitoba take part in a program which brings dental services directly to the residences of geriatric patients, Wright says, and the students also have the opportunity to practise in areas of the Northwest Territories and northern Manitoba which lack regular dental services.

Alumni involved in dental education, graduates such as Donovan, Stamm, and Wright, say that their schools are responding to changes in the profession by teaching new health care approaches, new technologies, and improved techniques to dental students. Dr Ted Allison, '53 DDS, of Calgary, reflects on the profession's advancement since his days at dental school: "When we got through school we were very heavily into things like surgery and dentures. We don't make dentures any more. We're in the tooth-saving business, not the tooth-making business."



Dr **GORDON SWANN** has been practising in Calgary since completing an MSc in orthodontics at the U of Toronto in 1952. He is a past governor of the U of Calgary and a past president of the Alberta Dental Association. He has also been involved with the Southern Alberta Society of Forensic Science and the Canadian Society of Forensic Science.



Dr **GILBERT UTAS** has a general dental practice in Grande Prairie. He is a past president of the Alberta Dental Association, the Canadian Dental Association, the Pacific Dental Federation, and a member of the American Society of Clinical Hypnosis.



Dr **JAMES WRIGHT** is the associate dean of the school of dentistry at the U of Manitoba, where he has worked since 1986. Prior to that, he had an extensive career with the Canadian Forces and attained the rank of brigadier general. He has a master's degree in oral pathology as well as a certificate in periodontics.



Dr **ALAN WU** holds a degree in dental public health from the U of Toronto, and has worked in the Ottawa-Carleton Health Department since 1969. Recently he was in charge of one of the largest immunization campaigns in Canadian history, when over 150,000 children were immunized in two weeks by his department.

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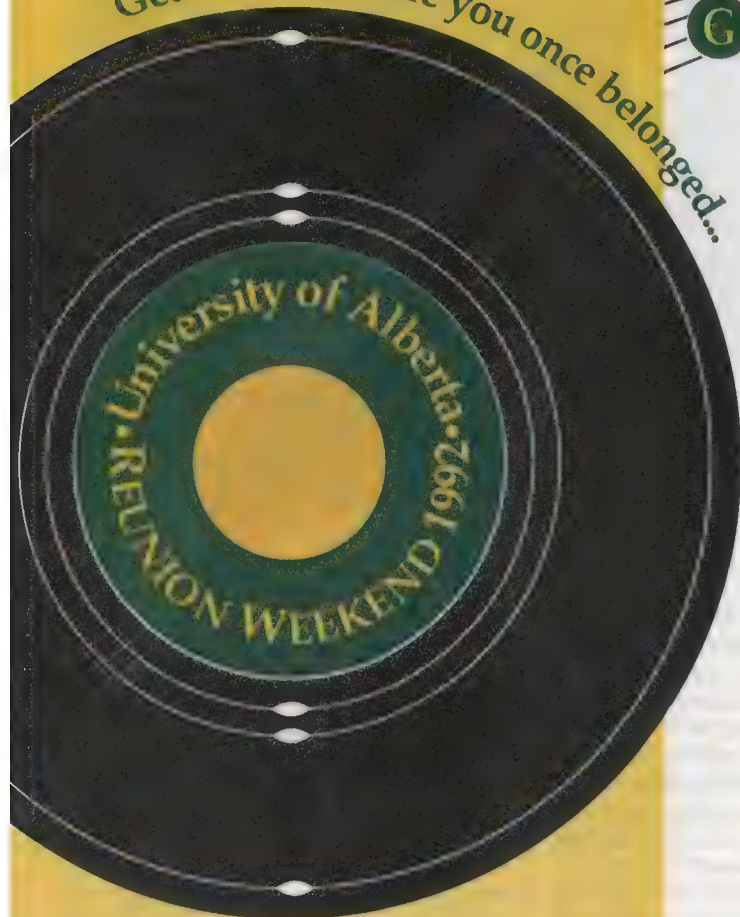
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Cost for each workshop is \$15 or \$25 for both (please add 7% GST). If you are an unemployed alumnus looking for a part-time, full-time or career-related position, register (before 5 November) by contacting:

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All alumni are invited to experience a day in the life of a University of Alberta student. SUB: 10:00 a.m. to 3:00 p.m.

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SATURDAY, OCTOBER 3

Tours

Breakfast drop-in & tours of Rutherford House
Campus tours depart from Rutherford House: 9:30 a.m.

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Return to the classroom for stimulating 50-minute lectures on a variety of fascinating subjects.
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Serving Students and the Community

Sometime this year the one-millionth procedure—an x-ray, filling, crown, bridge, denture, or perhaps just a simple extraction—was performed in the University of Alberta dental clinics on one of about 3,500 patients currently on the charts. That's only a small fraction of the 125,000 patients examined since dental education began on campus 75 years ago. These impressive totals represent only the main dental clinics, and not the myriad other patient services that his faculty offers, says Dentistry's director of clinics and patient management, Dr John Woronuk.

Woronuk says the Faculty's clinical program meets two demands: "We are a teaching institution, so one objective is to provide a teaching component. But, as in all health professions, there is also the necessity to serve a public need." Providing public dental service is only one benefit of the student clinics; fees are lower than in private dental practices, considering that treatment takes longer because students must be supervised at every step. Woronuk estimates, in today's dollars, that over 75 years the clinics have saved Albertans \$45 million in reduced dental care costs.

The ancestor of the Faculty's of Dentistry's extensive clinical education facilities was a single seven-chair clinic on the second floor of what was, in 1921, the Medical Sciences Building. Each station was equipped with a chair, a foot-driven drill, an instrument table, and a cuspidor. A bare electric bulb hung overhead. Facilities opened in 1948 in the East Wing addition to the Medical Sciences Building were somewhat more sophisticated, with 48 fully-equipped modern cubicles. The Faculty later expanded into the Centre Wing of Medical Sciences, where a 56-chair clinic was officially opened on 2 June 1961. Today, students and instructors scurry between clinical facilities that stretch over four of the six floors of the Dentistry-Pharmacy Centre, and extend to two hospital outreach programs.

A great challenge, according to Dr Donald Collinson, Dentistry's associate dean, clinical affairs, is maintaining up-to-date equipment for all the facilities. "Considering the cost, we are not upgrading every time something new comes out, because we have to make sure it's adequate to meet patient needs." The current renewal program allows for five to 10 clinical stations to be upgraded every year.

Besides the main dental clinic, where first, second and third-year students perform procedures suited to their level of training, the Faculty also operates an orthodontic clinic as part of the

graduate program in orthodontics, and a dental hygiene clinic, recently renovated to accommodate the program's increased enrolment this fall. In their final year, students from both Dentistry and Dental Hygiene gain experience in the general practice clinic, which simulates the conditions of a private dental practice.

Other components of the Faculty's clinical services include the dental hospital within the

tive patients, and in the summer the Faculty hires students to help staff the screening clinic.

Christina Wong, a fourth-year dentistry student, was one of those hired to work in the screening clinic this year. Poring over an illuminated set of x-rays, she says, "We see more mouths than other students that don't work in the summer. You learn to pick things up fast, to quickly assess what is wrong with a patient. I think it's very good experience."

After a patient is accepted into the teaching program, the next stop is the diagnosis and treatment planning clinic (DTPC)—affectionately known by dental students as "ditpic," Collinson says. Here, in consultation with the patient, students consider treatment options and form a dental treatment plan. Since 1985 a computerized patient management system has tracked each patient's visits to the Faculty's clinics, and soon all the treatment and financial records for the clinics will be accessible through an on-line computer system.

Woronuk says the careful attention devoted to screening and diagnosis are the groundwork for any treatment done in the clinics. "I don't know where you can get a more thorough analysis of the patient needs than what is carried on at this institution," he says.

"It's more personal, more thorough, and the work has always been excellent," says Lila Fahlman, explaining why she has been a patient of the University dental clinics since the '70s. "I would recommend the clinics to anybody." Collinson says that patients include individuals, families, University students and staff, and "a lot of patients who come in because they wish to contribute to the University and the education process." He adds that many are repeat patients, who return to the clinics many times. Sheila Hunchak, who says she has been a patient since the early '60s, has seen many student practitioners come and go. Remembering back 25 years, Hunchak says, "In fact, the dentist we are going to now treated my daughter at the clinic when she was five years old."

Collinson says that the Faculty usually doesn't have any trouble finding patients for the clinics. "Sometimes we are short of patients in some areas, but that may be a good thing," he says. For example, the clinics are currently short of denture patients, simply because fewer and fewer people are losing all their teeth. To recruit patients the Faculty sometimes takes out ads in local newspapers describing the type of dental patients needed.

The "teaching patients" selected for the clin-



The Class of '27 at work in their seven-chair clinic. The Faculty of Dentistry now offers its students a wide variety of clinical experiences.

University of Alberta Hospitals, and the geriatric dental clinic at the Edmonton General Hospital. In the dental hospital, students are exposed to oral surgery, tumors of the mouth and jaw, and trauma injuries such as broken jaws or damaged teeth. The other dimension of hospital dental care is providing routine dental services to bedridden or medically compromised patients. Woronuk, who served as director of the geriatric dental training program last year, says, "Providing this kind of service is a major, major step in the right direction."

Dental and Dental Hygiene students are assigned to rotations in all the clinics, where they are supervised by professional dentists and hygienists serving as clinical instructors. While most of the clinical facilities are only open during the academic year, the orthodontic clinic, the screening clinic, the satellite clinics in northern Alberta, and the emergency area of the dental hospital are all open to patients year round.

The treatment process begins with screening to determine what the patient's dental needs are and what level of ability is required of the student practitioners who will treat them. Cases that are too difficult are referred to private practice. During the academic year, students spend a two-week rotation screening prospec-

ics are very pleased with the student practitioners, Collinson says, "But occasionally it happens that a patient wants to change students. We can say to the patient, 'You are a part of the teaching staff. Work with the student, open the doors, try and communicate . . . You are a teacher, you can help us.' I haven't had one patient who has turned around and refused to try to help the student in this manner."

Reaching Out to Remote Communities

"Dentistry was a foreign word to them. Some had never seen a dentist in their lives," says Florence Ingham.

Ingham, an administrative assistant in the Faculty of Dentistry, is speaking about the residents of northern communities when the University of Alberta's mobile dental clinics rolled into their towns. And this was Alberta in the 1970s.

She says that since the beginning of the program the type of dental care provided has changed considerably. "When we started in 1974 we did the basics—restoration and extraction. That's where the demand was. Now we do the whole gamut." The emphasis has switched to preventative care: "The patients are now realizing that if you take care of your teeth you can keep them for the rest of your life."

The program's current name reflects another change, says Dr Gordon Thompson, chair of Dentistry's Department of Dental Health Care, which oversees the clinics. "We changed the name to satellite clinics (from mobile clinics) because they are an extension of the clinical teaching program on campus and because 'mobile' indicated that they were moving." Although designed to be portable, the trailer-style clinics no longer travel.

While the University's direct involvement with satellite clinics dates back to 1974, travelling clinics have been delivering dental care to Albertans since 1925. That year two dentists climbed aboard a travelling public health unit serving rural Alberta. The unit bumped over dirt roads by car, truck, and occasionally by old-fashioned horse power, until the service ceased in 1939.

Probably the first mobile clinic devoted exclusively to dentistry in Alberta was operated by Dr AO Sproule of Grande Prairie. In his book *A History of Dentistry in Alberta*, the late Hector MacLean recounted working in Dr Sproule's 'clinic'—built on the frame of a stripped-down Ford—during the summer of 1927 while he was

a University of Alberta dental student:

We never managed to build a driver's seat for this top heavy plywood structure. I became accustomed to sitting on the round gas tank and managed to steer it through country roads and a few sloughs only getting stuck once south of Halcourt . . . I would sleep in the office at the end of the day—after first lighting a smudge pail to partially control the mosquitoes.

In 1974 the University's satellite dental clinic program began as a joint venture of the Alberta government and the Faculty of Dentistry, the former responsible for the location and the cost of operating the clinics, the latter for professional and student staff. Two trailers were located in Slave Lake that year, and between 1974 and 1980 the communities of High Level and Manning also received rotating service from the mobile clinics.

The era of the truly mobile clinics ended by accident in 1979. That year the November issue of the *Journal of the Canadian Dental Association* reported: "The mobile dental clinic is no longer portable because of damage to its undercarriage in its last move from Manning to High Level, Alberta, in the northern part of the province." Two new replacement trailers were added to the program in 1980 and stationed in the communities of McLennan and High Level, where they are still in use today. The third of

run a very tight ship," she says.

Each clinic is staffed by one dentist, two dental students, and two dental hygiene students. The students spend two weeks in the satellite clinic rotation during the final year of their programs, living in furnished quarters supplied by the University. In the summer, the Faculty hires students to work in the clinics. Most of the dentists come from private practice in Alberta, and Thompson says the Faculty gives them an orientation to prepare them to work as clinical instructors with the students. Ingham has nothing but praise for the dentists that take time out from their practices to work and teach in the satellite clinics. "It's a non-paying experience. They do it because they want to give back to this program," she says.

The clinics are meant to simulate the conditions of a private dental practice in rural Alberta. The hope is that the experience will encourage students to return to rural areas to establish practices. This hasn't happened, however, says Ingham. "Unfortunately, this is one area where we have not been so successful. Students tend to want to stay in the cities."

Students benefit greatly from experiencing the differences between urban and rural clinical settings, Ingham says, because in the mobile clinics, they see a greater number and range of dental problems than they would in the city. Tooth decay, she says, is still rampant in many rural communities (some of which do not have fluoridated drinking water), while it has largely been controlled in the urban population. As well, patients from rural areas without a resident dentist often require basic information about preventative dental care. "Urban patients take complete dental service for granted. Rural people are appreciative, they appreciate being educated," Ingham says.

In the satellite clinics students also encounter some special situations, such as treating prisoners brought in for dental work. "I can't think of anything more stressful than having a guard with a gun standing there while you try to treat a patient!" Ingham says.

Not only the students, but the rural communities and the University itself benefit from the satellite dental clinics. The communities gain regular dental service; the University gets increased exposure in rural Alberta. Thompson says, "It's a high profile program in the communities . . . it demonstrates the activities of the University beyond central Alberta."

Below: The satellite dental clinic set up in La Crete, Alberta and on its way to the community following the Calgary Olympics.



the three current clinics is in La Crete. It was first used to provide dental services for the 1988 Calgary Olympics.

The mobile-home-style clinics are stocked with equipment "as modern as you'll find anywhere in downtown Edmonton," Thompson says. Ingham is responsible for distributing supplies, and she visits the clinics and each community's officials several times a year. "As the auditor, I

'35

Robert Smith, BSc(Eng), writes that he and his wife winter in Florida and summer in Meaford, Ontario, where they have lived since Robert retired from his position as chief engineer of Mines of Ontario 22 years ago.

'38

Vincent Rideout, BSc(Eng), has spent his career as a professor at the U of Wisconsin and recently completed his second book on electrical engineering.

'49

Keith Fowler, BCom, has been named to the Fellows of the Chartered Accountants (FCA), the CA profession's highest honor. Fowler, who works for Alberta Energy Co. in Edmonton, is one of 126 such fellows in Alberta.

'50

Bob Simmons, BSc(Ag), who resides in Lethbridge, was recently honored by being made a fellow of the the Agricultural Institute of Canada.

'51

Brian Sproule, MD, '49 BSc, '55 MSc, who has practiced pulmonary medicine at the U of A Hospitals for most of his career, has been appointed to the University Hospitals board.

'52

Fran Savage (Schroter), BEd, '80 MEd, is still on leave from her position as a high school teacher in the Edmonton Public School system after successfully running for her third one-year term as president of the Alberta Teachers Association.

'55

Gary Vliet, BSc(Eng), a professor at the U of Texas in Austin, was recently named a fellow of the American Society of Mechanical Engineers (ASME).

'56

Harvey Zingle, BEd, '60 MEd, '65 PhD, became the dean of the Faculty of Education at the U of A on 1 July 1992. He is a professor in the Department of Educational Psychol-

ogy and chaired that department from 1978 until 1988. Recently, he has been acting dean of the Faculty. **Richard Haskayne**, BCom, is now board chair of NOVA Corporation of Alberta and a member of the board of directors of Alberta Energy Company Ltd. He continues as chair of the board of governors of the U of Calgary and director of several corporations.

'58

Don Currie, BSc, '69 MSc, the managing director of the Alberta Chamber of Resources in Edmonton, was elected secretary of the Canadian Society of Petroleum Geologists this spring.

'59

John Orr, MSc, a manager with the Alberta Motor Association since 1982, will direct insurance, travel, and auto club services for several AMA locations as the new Edmonton regional manager. **Bill Marika**, BSc(Eng), has a new job as the manager, facilities engineering for PanCanadian Petroleum Limited.

'60

Donald Glover, BCom, who has worked in the life insurance field for 31 years, is the new president of the Life Underwriters Association of Canada.

'61

Douglas Heine, BSc, is the first Medicine Hat resident to be honored as a Knight of Grace with the Order of St. John, which he joined in 1962. He has been the manager of Medicine Hat Diagnostic Laboratories for 21 years. **Douglas Sanders**, LLB, '60 BA, delivered the convocation address at the U of Lethbridge spring convocation '92 as the recipient of an Honorary Doctor of Letters. **Margaret Seelye (Blades)**, BEd, '71 MEd, reports that she retired from the Red Deer and District School Board in 1975 and now keeps busy by "exploring areas of thought and expression that interest me." An exhibit of her monoprints, under the title "A Country School Christmas," recently appeared on display at the Red Deer and District Museum.

'62

John Neilson, LLB, '61 BA, has joined the Edmonton office of the firm Cook Duke Cox to practise corporate and commercial law. **Gerry Lucas**, LLB, '59 BA, celebrates his 30th anniversary this year with the Edmonton firm now known as Lucas, Bowker & White. **Alice Payne**, BSc, '65 MSc, is the first female to be elected to the post of president of the Canadian Society of Petroleum Geologists since the society was formed in the late 1920's. She is a senior geologist at Gulf Resources in Calgary. **Art Knight**, PhD, has been appointed associate vice-president (academic) at the U of Saskatchewan in Saskatoon. Previously, he was head of the chemistry department and dean of Arts and Science there.

'63

Carol Leiper, Dip(RehabMed), received the Dorothy Briggs Memorial Scientific Inquiry Award in June from the American Physical Therapy Association. She is an assistant professor at Beaver

In Memoriam

The Alumni Association extends condolences to the families and friends of the following:

Elizabeth Fleming Weir '19 BA, '20 MA, of Edmonton in March 1992
William Weltmer Cram '29 BSc(Ag), of Indian Head, Saskatchewan in May 1992
Dorothy Elizabeth Gishler '32 BA, of Edmonton in 1990
Stephen Sackville Parlee '34 BSc, '38 MD, of Victoria in June 1992
Gerald McRae Smith '35 BSc(Eng), in December 1991
John Charles Garrett '36 BA, '37 MA of Christchurch, New Zealand in July 1992
Edward Cameron Richards '36 Dip(Pharm), of Edmonton in May 1992
William Lawson Redmond '37 BSc(Eng), of Richmond, British Columbia in March 1992
Grace Ellen Logan '38 BA, of Grande Prairie, Alberta in June 1992
Donald Munro Williamson '38 BA, '50 MD, of Edmonton in May 1992
Andre Miville Dechene '39 LLB, of Edmonton in May 1992
Gerald Charles Lang '39 Dip(Pharm), of Edmonton in July 1992
Lloyd Ferguson McBride '40 Dip(Pharm), in May 1992
Thorleif Fostvedt '42 BSc, of Edmonton in May 1992
William Richardson Mason '42 BSc,

of Nepean, Ontario in December 1991
Hemen Brock Armstrong '43 MD, of Edmonton in July 1992
Orest Stechishin '43 MD, of Edmonton in June 1992
John Darnell Cottrell '44 BSc, '44 MD, of Duncan, British Columbia in June 1992
Garth Cameron Evans '45 DDS, of Calgary in June 1992
James Homer Aldrich '48 BEd, of Edmonton in May 1992
Edgar Henry Gerhart '48 BSc(Pharm), '60 LLB, of Edmonton in May 1992
Laura Hatti Johnson '48 BSc(HEC), of Edmonton in May 1992
Frederick Wilson Teare '49 BSc(Pharm), of Willowdale, Ontario in May 1992
Nelles Darwyn Hannah '51 BSc(Eng), in April 1992
Robert Alfred Hill '52 BSc(Ag), of Olds, Alberta in February 1992
Susan Bernharos Peters '52 Dip(Ed), '54 Dip(Ed), '56 BEd, of Linden, Alberta in June 1992
Helen Josephine Larratt '54 Dip(Ed), of Calgary in June, 1992
Alexander George Warke '54 BSc(Eng), of Calgary in May 1992
David Ray Ashford '57 BSc, '61 MD, of Calgary in June 1992
Hutchison Shandro '58 BSc, '62 BA, of Toronto in November 1991
Joseph Atkinson, '59 Dip(PhNu) of

Edmonton in July 1992
Betty Verna Sittlington '63 BEd, of Calgary in May 1992
Balfour Michael Gallivan '64 BEd, of Edmonton in May 1992
Stephen John Sieben '64 Dip(Ed), of St. Albert, Alberta in July 1992
Gregory John Strand '68 BA, '71 BEd, '74 Dip(Ed), of St. Albert, Alberta in May 1992
Jean Edna Miller '69 Dip(PhNu), of Edmonton in July 1992
Sally MacLean Giles '70 Dip(Nu), of Black Creek, British Columbia in June 1992
Thomas Joseph Mulloy '72 BEd, of Manning, Alberta in April 1992
Gregory Mills Martin '73 BA, '74 Dip(Ed), '77 BEd, of Sedgewick, Alberta in July 1992
Ruth Ellen Powell '73 BSc(PT), of Nanaimo, British Columbia in July 1992
John Allison Van Hauwaert '75 BSc, '76 Dip(Ed), of Edmonton in June 1992
Rudolph Peter Stadig '82 BSc, '86 DDS, in June 1992
Richard Dillion Kroshus '83 BA, in February 1992
Mary Louise Hill '86 BEd in July 1992
Joan Pederson '86 BA, in July 1991
David Thomas Lewis '90 BSc, of Sherwood Park, Alberta in June 1992
Randy Mitchell Serbu '90 BSc, of Edmonton in July 1992
Kelly-Lynn Jenkins (Harding) '91 BA, of Edmonton in July 1992

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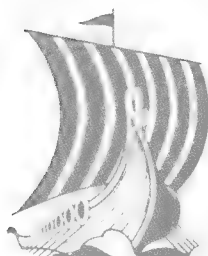
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College in Glenside, Pennsylvania, and holds master's and doctorate degrees in education from Temple U in Philadelphia.

Ken McCready, BSc(Eng), is one of two new directors of PanCanadian Petroleum Limited in Calgary. He is also president and CEO of TransAlta Utilities.

'64

Patrick Bentley, LLB, '61 BSc(Eng), writes that he has left the Alberta firm Bishop & McKenzie, where he has practised law since graduation. As the new director of bar admission training for the Legal Education Society of Alberta, he will be involved with the design, development, and implementation of a new bar admission course for Alberta. **Nolan Blades**, BSc(Eng), the current CEO of Chauvco Resources Ltd, was recently appointed to the company's board of directors.

'65

Graham Lock, BSc(Eng), president of Canadian Western Natural Gas, is now a member of the company's board of directors, and president of several other subsidiary companies of Canadian Utilities Ltd.

John Macdonald, BA, is a judge of the Ontario Court of Justice (General Division), which is the superior court of Ontario. He sits in Toronto.

'66

Jim Browne, BA, '68 MSc, '71 PhD, who is the registrar of the College of Psychologists of British Columbia, has been appointed to a committee that will advise the B.C. government on changing its health care system to better meet the needs of the people of the province.

'67

Bob Wanzel, BPE, '71 MA, '74 PhD, a professor of sports administration at Laurentian U in Sudbury, Ontario since 1974, received the 1992 Teaching Excellence Award at the school's spring convocation ceremonies. Previously he taught at the U of A for one year and was a high school teacher in Edmonton. **Marg Mazer** (Carstenson), BA, and **Gerry Mazer**, '74 BEd, live in Grande Prairie, Alberta, where Marg is an academic advisor for university transfer programs at Grande Prairie Regional College and Gerry is superintendent of schools for the County of Grande Prairie #1.

'69

Bill Blair, DDS, is the 1992-93 president of the Alberta Dental Association. He has practised general dentistry in Calgary for 23 years.

'70

Katherine Govier, BA, was the winner of the 1992 Toronto Book Award for her latest novel, *Hearts of Flame*.

Roderic Beaujot, BA, '72 MA, '75 PhD, who is sociology professor at the U of Western Ontario, recently published a book on population change in Canada.

Halyna Freeland (Chomiak), LLB, '67 BA, has been given the job of creating a legal system for Ukraine. She will head a newly-established legal foundation that has been given presidential decree to overhaul the country's legal system. Recently, she has been in Ukraine working on a master's thesis in Slavic studies from the U of A.

Hugh Arnold, BA, became the new dean of the Faculty of Management at the U of Toronto on 1 July for a seven-year term. Known for his work in the field of organizational behavior, he holds master's degrees from Oxford and Yale and a doctorate from Yale.

Ernie Jacobson, BA, '71 MA, has been elected chair of the board of directors of Capital City Savings in Edmonton, his second consecutive term. He is the assistant program head of business administration at NAIT and with Athabasca U.

Lionel Udenberg, BEd, sold his farm in Grand Fork, B.C., and is retired in Wetaskiwin, Alberta.

'71

Marcus Busch, BA, and spouse **Margaret Sadler**, '82 MEd, will be serving as volunteer English-as-a-second-language teachers at the Dohoku Centre English Language School in Noyoro, Hokkaido, Japan, for the 1992-93 term, as well as travelling throughout southeast Asia. Marcus is on leave from his position as a social work consultant with Edmonton Public Schools, and Margaret has been working as an instructional design consultant. **Jim Stewart**, BSc(Eng), received a recent appointment to manager, land development and municipal, from UMA Engineering Ltd. Jim has been with the company since 1973.

Stewart Gossen, BA, has been put in charge of the newly-created Property Consolidation Division of Home Oil Company Ltd. after 18 years with the company.

Betty Rawlinson, BA, is one of five women to receive a YMCA of Edmonton 1992 Tribute to Women Award.

Susan Arrison, BEd, '83 MA, is the community affairs coordinator for Alberta Environment.

Proong Komaratat, BSc(Nu), has been promoted to director, nursing college affairs division in the Ministry of Public Health in Bangkok, Thailand.

Vera Radyo, BSc, '74 MA, joined the United Way of the Lower Mainland in B.C. recently as a multicultural consultant. She was also appointed as a governor of the Law Foundation of British Columbia by the attorney general of B.C.

'72

Raphael Mwajombe, BEd, is planning to retire and to work out of his home in Dar Es Salaam, Tanzania. "I'll never forget Edmonton," he writes.

Elsie Klassen, BEd, was on a four-month assignment with the Men-

nonite Central Committee (the service, development, and relief agency of North American Mennonite churches) earlier this year. She was working in a self-help craft store in Ephrata, Pennsylvania.

'73

Gary Gahr, BA, '79 MA, reports that he has moved to B.C. to join the Surrey Planning Department as an area planner, and is "thoroughly enjoying life on the beautiful West Coast." For the past eight years Gary was a development officer with the City of St. Albert, Alberta.

Ken Perl, BSc(Ag), '79 MSc, became the chair of the agriculture program at Lethbridge Community College in May. Ken has taught in the College's environmental science program since 1980.

Ernie Zelinski, BSc(Eng), '86 MBA, is the author of the best-selling book *The Joy of Not Working*. Ernie lectures on personal creativity and leisure time and is also the author of *The Art of Seeing Double or Better in Business*.

'74

D Tudor Williams, BEd, is a communications consultant in the



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Vancouver office of Towers Perrin, a management consulting and actuarial firm. He is the firm's communications practice leader in Canada.

Donna Radmanovich, MD, '72 BSc(Med), '90 MBA, is the new assistant executive director, professional affairs of the Alberta Medical Association. Her previous experience includes working with the Stony Plain-Lac St. Anne Health Unit in north-central Alberta, and as a family physician in St. Albert, Alberta.

John Reid, BCom, has become a managing partner of Peat Marwick Thorne's two Edmonton offices. John is also chair of the board of governors for the Royal Alexandra Hospital in Edmonton and has been a chartered accountant in Edmonton for 16 years.

Donna Martel (Luft), BSc, '75 Dip(Ed), and **Phil Martel, '76** BSc, own Garden Central, an Edmonton business. Their specialty is pumicite, a lightweight volcanic rock popular with landscapers, interior designers, and home owners.

Yvonne Becker (Shea), BPE, '81 MA, is the first woman to be elected to the presidency of the Alberta Colleges Athletic Conference. She is an assistant professor of

physical education at Augustana U College (formerly Camrose Lutheran College) and the athletics director and chair of physical education there.

'75

Bryan Walton, BSc, has been promoted to vice-president, western region, with the Canadian Council of Grocery Distributors. He has been with the Council since 1987.

David Geldreich, LLB, a lawyer who operates his family farm in Bow Island, Alberta, has been appointed chair of the board of governors of Medicine Hat College.

Bruce Garriock, LLB, '71 BA, is now a partner with the firm Brownlee Fryett of Edmonton. He specializes in corporate and commercial law.

'76

Sharon Nelson, BLS, is working as a teacher-librarian at Foothills Composite High School in Okotoks, Alberta.

David Ibsen, BEd, '82 MEd, lives in Singapore and works as a senior education development officer, responsible for educational computing. He writes that his research interest is "education multi-media

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cooperative information networks." **Andre Boulet**, BSc(Ag), operates the family farm in Donnelly, Alberta, with his parents.

John Bachinski, BCom, is Edmonton's sheriff. John's responsibilities include judicial duties such as repossessing property, summoning and supervising jurors, and enforcing court orders. He is also clerk of the Court of Queen's Bench and registrar of the Court of Appeal of Alberta.

Jean-Marc Deroy, MSc, lives in Vienna, Austria, and works for the United Nations Industrial Development Organization as director of the industrial investment division. Previously, he spent three years in Brussels, Belgium working for the French Permanent Delegation to the European Communities.

'77

Joanne Babiak, BEd, '88 Dip(Ed), moved recently from Grande Prairie, Alberta to Penticton, B.C. She writes that she is teaching an early primary class at Naramata Elementary in Naramata, B.C.

'78

Peter Fung, BA, studied criminology

at the U of A and is now a senior inspector with the Customs Department in Hong Kong. "I have a happy family with my wife and one daughter," he writes.

Paul Newcombe, LLB, is practising law with Cook Duke Cox in Calgary.

'79

Lori Olyan (Hardin), BCom, and **Arnie Hardin**, '80 LLB, are living in Toronto with their three children after spending five years in Israel.

Nadia Koziak, LLB, '76 BSc, is a partner in the new Edmonton law firm Nararevich & Koziak.

David Hancock, LLB, '75 BA, who is a partner with the Edmonton law firm Matheson & Company, has been appointed to the board of the U of Alberta Hospitals.

Terry Blumenthal, BSc, was promoted to associate professor of psychology at Wake Forest U in Winston-Salem, North Carolina.

Terry writes that he recently returned from a Reynolds Research Leave, during which he visited several psychophysiology labs in Canada, the U.S., and Europe.

Robert Nelson, BA, is currently working on a PhD in Indiana, and reports that he has travelled to Panama and taught in India in recent years.

Jasper Von Meerheimb, BA, '83 MFA, lives in the Hollywood Hills and works as a show set designer for Walt Disney Imagineering, which produces rides and attractions for the various Disney theme parks around the world. He writes that he is "pro-active in the emerging 'men's movement,' which explores an individual's potential for personal empowerment."

'80

Roy Brown, MD, '76 BSc, and **Leslie Brown (Yearwood)**, '78 BEd, are now both doctors—Leslie returned to university at UBC and in 1991 obtained her MD. She recently spent an internship year in Toronto with their bilingual three-year-old, and they "are happy to be reunited with husband-father in Vancouver." Roy is busy with a medical practice in Richmond, B.C. and two walk-in medical clinics.

Chris Gorman, MD, '78 BMS, and **Mary Gorman (Cheriton)**, '78 BMS, '80 BSc, have three children and live in Calgary where Chris works at Foothills Hospital. His special interest is light therapy for seasonal depression.

Dennis Denis, BA, a lawyer with the Edmonton firm Durocher Simpson, was recently appointed to the board of directors of the Family Centre (formerly the Family Service Association) in Edmonton.

Heather Rendell-Collins, BPE, lives in Sura, Fiji with her husband and two children, and is studying at the U of the South Pacific for a certificate in teaching English as a second language.

'81

Antonia Kwiecien, BSc(Pharm), moved to the Netherlands in July of last year and has "spent the last year adapting to the new experiences as well as travelling and visiting friends in Europe." She writes that she is now working for a drug-testing service as an agent in Rotterdam, Amsterdam, and Antwerp.

Eleanor Olszewski, LLB, '77 BSc(Pharm), practises personal injury and health law with the firm Brownlee Fryett of Edmonton, where she was recently made a partner of the firm.

Elizabeth Kavanagh, MLS, '77 BA, is "enjoying fixing up an old house, gardening, and hobbies," at her new home in Kamloops, B.C. Elizabeth reports that she spent the last 10 years as health sciences librarian at Red Deer Regional Hospital Centre.

'82

Marco Adria, BMus, received the Governor General of Canada Gold Medal from Trent U for attaining the highest academic standing in a graduate program. He is currently working as a course materials editor at Athabasca U.

'83

Teresa Williams (Semeniuk), BA, and **Peter Williams**, '82 BSc(Eng), are hoping to settle in the Edmonton area this fall after Peter completes a four-month contract in Charters Towers, Queensland, as a planning engineer at Mt. Leyshon gold mine. At last report, Teresa was job-hunting in Edmonton. **Suzan Hebditch**, MLS, who is the law librarian for the Canada Department of Justice in Edmonton, has been awarded the Department of Justice Award of Merit for her "imaginative ways of promoting the law library and her enthusiastic support in increasing the profile of the Edmonton office."

Suzan is also a sessional lecturer both in the Faculty of Law and the School of Library and Information Studies at the U of A.

Jennie Wolter (Seto), MSc, has been transferred by Shell Canada Ltd. from Calgary to Oakville, Ontario.

Jean Forest, LL.D(Honorary), has been appointed chancellor emeritus of the U of A and chair of the Senate of St. Stephen's College.

'84

Garnet Matsuba, LLB, '81 BCom, has joined the Edmonton firm of Prowse & Chowne as a taxation lawyer.

Wayne Lui, BSc(Eng), is living in Calgary after finishing an international MBA in Belgium. He writes that he plans to travel for six months, "before I become a 'real' person again (someone who works for a living)."

'85

Melanie Reed-Zukowski, BEd, who has been a special-needs teacher with the Brooks School District for seven years, was married in February.

Kathryn Dykstra, LLB, has joined the firm Cook Duke Cox in Edmonton to practise corporate and commercial law.

Catherine Pritchard (Crooks), BCom, and **Rolf Pritchard**, '84 BA, were married in 1987 and live in Edmonton, where Catherine is the director of marketing for Reidmore Books Inc., an educational publisher. She has worked in the publishing industry in Regina and Edmonton.

Peter Thompson, LLB, practises environmental law with Graham, Wilson & Green in Barrie, Ontario. He recently spent a year in Sweden.

Michael Jackson, BSc(Eng), is "very happy to be back in Canada" after spending five years at Cal Tech doing an applied physics PhD, and two years in Paris doing post-doctoral work. He writes from UBC to say he is an assistant professor of electrical engineering there.

Murray Lee, BCom, and **Rena Lee (Braham)**, '88 BA(RecAdmin), of Edmonton report that they "just bought a new house and are busy packing." Rena is a regional consultant with the Alberta Forest Service and Murray is a systems consultant with Softwarehouse (West) Inc.

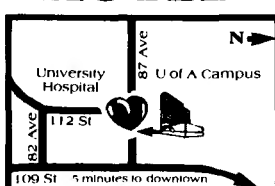
'86

James Campbell, BCom, completed

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his MBA at the U of Calgary earlier this year. He reports that he has "moved back to God's Country" and accepted the position that he now holds, finance director of the Metis Nation of Alberta, in Edmonton. **Blaise McKenna**, BEd, was recently certified by the Purchasing Management Association of Canada, and is the purchasing manager at the Royal Alexandra Hospital in Edmonton. **Karen Sloan**, BA, is assistant, communications for the Calgary Philharmonic Orchestra. She recently completed an arts administration program in Banff. **Kent Webb**, BA, and **Cathy Webb (Peet)**, BEd, live in Penticton, B.C., where Kent practises law with Boyce & Co. and Cathy teaches grade one. They recently spent a year travelling to India, Nepal, and southeast Asia. **Muhammad Ashfaq**, PhD, is an associate professor of mathematical science in Dhahran, Saudi Arabia. **Nancy Cumming**, LLB, '83 BA, has become a partner in the Edmonton firm Bryan & Company, practising insurance litigation.

'87

Juliana Chua (Ding), BSc(AgEng), and **Jeff Chua**, BSc(Eng), live in Western Australia, where Juliana is a project engineer with Dames and

Moore and Jeff is a capacity planning specialist with DHL Asia Pacific. Juliana writes that they recently celebrated the birth of a daughter.

Dennis Egert, BCom, and **Lynae Egert**, '89 BSc(Speech), are in Germany for two years on a transfer from Dennis' company, Peat-Marwick. They are planning to return to Canada in the summer of 1993.

Shawna Stonehouse, BCom, is the 1991-1992 chair of the Canadian Chamber of Commerce's China Trade Committee in Hong Kong. She has learned to speak Mandarin and Vietnamese and hopes to soon open her own special events management company.

Shirley Melnychuk, BSc(HEC), writes that she is the manager of an art gallery and custom frame shop specializing in west-coast art in Qualicum Beach, B.C.

'88

Judy O'Connell (Ciura), BEd, and **Dan O'Connell**, BSc(Pharm), recently moved from Grande Prairie to Calgary, where they have acquired a pharmacy.

Don McCarville, MD, is now a third-year resident in the Department of Surgery at Dalhousie U in Nova Scotia.

Hanjiu Li, PhD, lives in Arlington, Massachusetts, and is a research scientist with ALKERMES, a pharmaceutical company in Boston.

Darrel Armstrong, BSc(Ag), is now pedigree seed production coordinator for Alberta with Proven Seeds, a division of United Grain Growers.

Brad Jones, BSc(FdSci), '84 BSc, travels throughout Alberta and the Northwest Territories as an agriculture officer with the federal Department of Agriculture. He specializes in egg control.

Rob Richards, BSc, works as a systems analyst at NAIT in Edmonton. He says he is enjoying his family: "My two kids present challenges I never faced in school."

'89

Quien Yu, MA, is a PhD student of computer science studying at Wayne State U, located in Detroit, Michigan.

Debbie McIntyre, BSc, is a sales and service representative for Aurum Ceramic Dental Labs, servicing central and northern Alberta.

Ron Vander Zwan, BSc(Forest),

has encountered U of A BSc(Forest) grads **Les Barlow**, '85, **Kim Peel**, '86, **Steve Roberts**, '87, and **Randy Harris**, '91 in Clearwater, B.C., where he works for the Ministry of Forests. He writes, "The U of A foresters have definitely infiltrated B.C. and we have had some good discussions i.e. U of A profs!" Ron, who has been married for three years, recently passed the professional exam in forestry.

Janice Boyko, BEd, is teaching at Inter-American School, a mission school located in the highlands of Guatemala.

Sharon Hoeppner, BSc(Nu), of Edmonton, graduated earlier this year from Canadian Theological Seminary with a master's degree in religion.

Paul Goud, BSc(Eng), graduated last year from the U of Calgary with an MSc in electrical engineering. Since January he has lived in Vancouver and worked for Glenayre Electronics.

'90

Judy McIntyre, BEd, lives in Sapporo, Japan, where she teaches English at a private kindergarten. Her parents write, "she has survived the initial culture shock, but now appreciates anything printed in English."

Janet Alexander-Smith, LLB, **Carol Berman**, LLB, and **Frederica Schultz (Brook)**, LLB, recently became associates of the Edmonton law firm Emery Jamieson.

Beverly Daniel, BEd, is teaching grade school in Prince Rupert, B.C. **Jacinte Jean**, BSc, is pursuing a master's degree in mathematics at the U of Waterloo.

Mark Cabaj, BA, is a marketing consultant in the foreign affairs bureau of the Ministry of Privatisation in Warsaw, Poland.

Chris Pilger, BCom, was Edmonton Hire A Student's program administrator this past summer. **Edwin Denning**, BSc(Ag), and his wife and two sons have left Blackfalds, Alberta for a three-year assignment with the Mennonite Central Committee in Desarmes, Haiti, where Edwin will work as a forester.

'91

Jon Arnot, BSc, reports that he is quitting his job and moving to Vancouver to join a rock 'n' roll band.

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